



PROPOSED
06-07-2012

TITLE V FEDERAL OPERATING PERMIT AND SMAQMD RULE 201 PERMITS TO OPERATE

TITLE V PERMIT NO:

TV2009-09-01

ISSUED TO:

Aerojet - Sacramento Operations
PO Box 13222
Sacramento, CA 95813-6000

FACILITY LOCATION:

2001 Aerojet Road
Rancho Cordova, CA 95742

PERMIT ISSUED:

Xxxxxx XX, 2012

PERMIT LAST AMENDED:

NA

PERMIT EXPIRES:

Xxxxxx XX, 2017

RESPONSIBLE OFFICIAL:

Robert Werling
Vice President, Sacramento Operations
(916) 355-3611

CONTACT PERSON:

Chelsea Westerberg
Environmental Specialist
(916) 804-2361

NATURE OF BUSINESS:

Propulsion Systems and Parts [SIC 3764]
Ordnance - Armaments [SIC 3489]

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I. PERMIT SUMMARY

This permit shall serve as a Permit to Operate pursuant to SMAQMD Rule 201 (General Permit Requirements) and SMAQMD Rule 207 (Title V - Federal Operating Permit Program). Requirements identified in the permit as non-federally enforceable are not enforceable by U.S. EPA or the public. However, they are enforceable by the SMAQMD.

The permittee's application for this air quality Permit to Operate was evaluated for compliance with SMAQMD, State of California, and federal air quality rules and regulations. The following listed rules are those that were found to be applicable at the time of permit review based on the information submitted with the Title V permit application.

Citation	Description	Rule Adoption Date	Federally Enforceable?
SMAQMD Rule 101	General Provisions and Definitions	09-03-1998	Yes
SMAQMD Rule 102	Circumvention	11-29-1983	Yes
SMAQMD Rule 105	Emission Statement	09-05-1996	Yes
SMAQMD Rule 201	General Permit Requirements (SIP approved)	11-20-1984	Yes
SMAQMD Rule 201	General Permit Requirements (Not SIP approved)	08-24-2006	No
SMAQMD Rule 202	New Source Review (not SIP approved - SIP approval of 11-20-1984 version withdrawn 08-19-2011)	10-28-2010	No
SMAQMD Rule 203	Prevention of Significant Deterioration (effective date 08-19-2011)	01-27-2011	Yes
SMAQMD Rule 207	Title V - Federal Operating Permit Program (not SIP approved but rule is applicable as part of U.S. EPA approval of the SMAQMD Title V program)	04-26-2001	Yes
SMAQMD Rule 211	MACT at Major Sources of Hazardous Air Pollutants	01-22-1999	No
SMAQMD Rule 214	Federal New Source Review (effective date 08-19-2011)	10-28-2010	Yes
SMAQMD Rule 301	Permit Fees - Stationary Source (Not SIP approved but Title V fees in rule applicable as part of U.S. EPA approval of the SMAQMD Title V program)	08-01-2008	Yes

I. PERMIT SUMMARY (continued)

Citation	Description	Rule Adoption Date	Federally Enforceable?
SMAQMD Rule 306	Air Toxic Fees	03-27-2003	No
SMAQMD Rule 307	Clean Air Act Fees	09-26-2002	Yes
SMAQMD Rule 401	Ringelmann Chart	04-05-1983	Yes
SMAQMD Rule 402	Nuisance	08-03-1977	No
SMAQMD Rule 403	Fugitive Dust	11-29-1983	Yes
SMAQMD Rule 404	Particulate Matter	11-20-1984	Yes
SMAQMD Rule 406	Specific Contaminants	11-29-1983	Yes
SMAQMD Rule 411	NOx from Boilers, process Heaters and Steam Generators	08-23-2007	Yes
SMAQMD Rule 412	Stationary IC Engines Located at Major Stationary Sources of NOx	06-01-1995	Yes
SMAQMD Rule 414	Natural Gas Fired Water Heaters (SIP approved)	08-01-1996	Yes
SMAQMD Rule 414	Natural Gas Fired Water Heaters (Not SIP approved)	03-25-2010	No
SMAQMD Rule 420	Sulfur Content of Fuels	11-29-1983	Yes
SMAQMD Rule 441	Organic Solvents	11-29-1983	Yes
SMAQMD Rule 442	Architectural Coatings (SIP approved)	09-05-1996	Yes
SMAQMD Rule 442	Architectural Coatings (Not SIP approved)	05-24-2001	No
SMAQMD Rule 448	Gasoline Transfer into Stationary Storage Containers (SIP approved)	02-02-1995	Yes
SMAQMD Rule 448	Gasoline Transfer into Stationary Storage Containers (Not SIP approved)	02-26-2009	No
SMAQMD Rule 449	Transfer of Gasoline into Vehicle Fuel Tanks (SIP approved)	09-26-2002	Yes
SMAQMD Rule 449	Transfer of Gasoline into Vehicle Fuel Tanks (Not SIP approved)	02-26-2009	No

I. PERMIT SUMMARY (continued)

Citation	Description	Rule Adoption Date	Federally Enforceable?
SMAQMD Rule 451	Surface Coating of Miscellaneous Metal Parts and Products (SIP approved)	11-29-1983	Yes
SMAQMD Rule 451	Surface Coating of Miscellaneous Metal Parts and Products (Not SIP approved)	10-28-2010	No
SMAQMD Rule 454	Degreasing Operation	09-25-2008	Yes
SMAQMD Rule 456	Aerospace Assembly and Component Coating Operations	10-23-2008	Yes
SMAQMD Rule 463	Wood Products Coatings	09-25-2008	Yes
SMAQMD Rule 466	Solvent Cleaning	10-28-2010	Yes
SMAQMD Rule 602	Breakdown Conditions: Emergency Variance	12-06-1978	No
SMAQMD Rule 701	Emergency Episode Plan	05-27-1999	Yes
SMAQMD Rule 801	New Source Performance Standards	05-26-2011	No
SMAQMD Rule 902	Asbestos	10-01-1998	No
SMAQMD Rule 904	Airborne Toxic Control Measures	05-26-2011	No
CARB Airborne Toxic Control Measure (ATCM)	Airborne Toxic Control Measure for Stationary Compression Ignition Engines [CCR Title 17, Division 3, Chapter 1, Subchapter 7.5, Section 93115]	05-19-2011 (A)	No
CARB Airborne Toxic Control Measure (ATCM)	Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated At 50 Horsepower and Greater [CCR Title 17, Division 3, Chapter 1, Subchapter 7.5, Section 93116]	02-19-2011 (A)	No
U.S. EPA National Emission Standards for Hazardous Air Pollutants (NESHAP)	National Emission Standards for Hazardous Air Pollutants - General Provisions [40 CFR 61 Subpart A (begin at 61.01)]	09-13-2010 (A)	Yes

I. PERMIT SUMMARY (continued)

Citation	Description	Rule Adoption Date	Federally Enforceable?
U.S. EPA National Emission Standards for Hazardous Air Pollutants (NESHAP)	National Emission Standard for Asbestos [40 CFR 61 Subpart M (begin at 61.140)]	07-20-2004 (A)	Yes
U.S. EPA National Emission Standards for Hazardous Air Pollutants (NESHAP)	National Emission Standards for Hazardous Air Pollutants - General Provisions [40 CFR 63 Subpart A (begin at 63.1)]	08-11-2011 (A)	Yes
U.S. EPA National Emission Standards for Hazardous Air Pollutants (NESHAP)	National Emission Standards for Hazardous Air Pollutants for Aerospace Manufacturing and Rework Facilities [40 CFR 63 Subpart GG (begin at 63.741)]	04-20-2006 (A)	Yes
U.S. EPA National Emission Standards for Hazardous Air Pollutants (NESHAP)	National Emission Standards for Hazardous Air Pollutants for Stationary Internal Combustion Engines [40 CFR 63 Subpart ZZZZ (begin at 63.6580)]	08-20-2010 (A)	Yes
U.S. EPA National Emission Standards for Hazardous Air Pollutants (NESHAP)	National Emission Standards for Hazardous Air Pollutants for Engine Test Cells/Standards 40 CFR 63 Subpart P (begin at 63.9280)]	04-20-2006 (A)	Yes
40 CFR Part 68	Chemical Accident Prevention Provisions	04-09-2004 (A)	Yes
40 CFR Part 82 Subpart F	Protection of Stratospheric Ozone - Recycling and Emissions Reduction	08-11-2011 (A)	Yes

(A) Most recent amendment date.

Future changes in prohibitory rules may establish more stringent requirements that may, at the SMAQMD level, supersede the conditions listed here. For Title V purposes however, the federally enforceable requirements are those found in the Title V permit. Federally enforceable provisions of the Title V permit do not change until the Title V permit is revised.

II. FACILITY DESCRIPTION

Aerojet's primary activities include manufacturing Propulsion Systems and Parts (SIC Code 3764) and Ordnance- Armaments (SIC Code 3489):

1. Propulsion Systems & Parts:

Aerojet manufactures liquid (e.g. Delta, Titan, NK-33) and solid (e.g. AMRAAM, Hawk, Standard Missile, Minuteman) propulsion systems and aerospace components (e.g. F-22 boom) in support of government and commercial contracts. The components can be fabricated, assembled, tested and/or refurbished by Aerojet.

2. Ordnance- Armaments:

Aerojet manufactures ordnance items in support of government and commercial contracts. The ordnance can be fabricated, assembled, tested and/or refurbished by Aerojet.

The activities listed above are supported by boilers, internal combustion engines, rocket motor test stands, paint booths, abrasive blasting processes, baghouses, scrubbers, gasoline dispensing equipment and general maintenance equipment. Research and development and testing are also performed at this facility.

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

TITLE V PERMIT MODIFICATIONS AND RENEWAL

1. The owner or operator of a stationary source shall submit to the SMAQMD Air Pollution Control Officer a complete Title V permit application for renewal no later than 12 months prior to the expiration date of the Title V permit (by no later than March 1, 2017).
[Basis: SMAQMD Rule 207 Section 301.4]
2. The owner or operator of a stationary source shall submit to the SMAQMD Air Pollution Control Officer a complete Title V permit application for minor Title V permit modification. The application shall be submitted after receiving any required preconstruction permit from the SMAQMD and before commencing operation associated with the Minor Title V permit modification.
 - A. In lieu of the above, the owner or operator may request the Enhanced New Source Review process for a new source or a modified source permit application in accordance with SMAQMD Rule 202 Section 101.1 and SMAQMD Rule 214 Section 101.1.
[Basis: SMAQMD Rule 207 Section 301.6, Rule 202 Section 101.1 and Rule 214 Section 101.1]
3. The owner or operator of a stationary source shall submit to the SMAQMD Air Pollution Control Officer a complete Title V permit application for Significant Title V permit modification. The application shall not be submitted prior to receiving any required preconstruction permit from the SMAQMD but no later than 12 months after commencing an operation associated with the Significant Title V permit modification. Where an existing federally enforceable Title V permit condition would prohibit such change in operation or the stationary source is not required to obtain a preconstruction permit, the owner or operator must obtain a Title V permit modification before commencing operation.
 - A. In lieu of the above, the owner or operator may request the Enhanced New Source Review process for a new source or a modified source permit application in accordance with SMAQMD Rule 202 Section 101.1 and SMAQMD Rule 214 Section 101.1. Where an existing federally enforceable Title V permit condition would prohibit such change in operation or the stationary source is not required to obtain a preconstruction permit, the owner or operator must obtain a Title V permit modification before commencing operation.
[Basis: SMAQMD Rule 207 Section 301.7, Rule 202 Section 101.1 and Rule 214 Section 101.1]
4. The applicant shall submit to the SMAQMD Air Pollution Control Officer timely updates to the Title V application as new applicable requirements become applicable to the source.
[Basis: SMAQMD Rule 207 Section 302.1]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL (continued)

5. The applicant shall submit to the SMAQMD Air Pollution Control Officer any additional information necessary to correct any incorrect information in the Title V permit application upon becoming aware of such incorrect submittal or if the applicant is notified by the Air Pollution Control Officer of such incorrect submittal.
[Basis: SMAQMD Rule 207 Section 302.2]
6. The applicant shall submit to the SMAQMD Air Pollution Control Officer any additional information relating to the Title V application within 30 days if such information is requested in writing by the Air Pollution Control Officer.
[Basis: SMAQMD Rule 207 Section 302.3]
7. Title V permit expiration terminates the stationary source's right to operate unless a timely and complete Title V permit application for renewal has been submitted and the stationary source complies with Sections 303.1(a), (b), (c), and (d) of Rule 207, in which case the existing Title V permit will remain in effect until the Title V permit renewal has been issued or denied.
[Basis: SMAQMD Rule 207 Section 303.2]
8. Any Title V application form, report, or compliance certification submitted pursuant to a federally enforceable requirement in this permit shall contain certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
[Basis: SMAQMD Rule 207 Section 304]
9. This Title V permit shall have a 5-year fixed term from the date of issuance. The Title V permit shall have a new 5-year fixed term from the date of final action on reopening if the responsible official chooses to submit to the SMAQMD a complete Title V application for renewal upon reopening of the Title V permit pursuant to Sections 411 or 412 of Rule 207, and the Title V permit is renewed according to the administrative procedures listed in Sections 401 through 408 of Rule 207.
[Basis: SMAQMD Rule 207 Section 306]

PERMIT COMPLIANCE

10. The permittee must comply with all conditions of the Title V permit.
[Basis: SMAQMD Rule 207 Section 305.1(k)(1)]
11. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the Title V permit.
[Basis: SMAQMD Rule 207 Section 305.1(k)(2)]
12. This Title V permit may be modified, revoked, reopened, and reissued, or terminated for cause.
[Basis: SMAQMD Rule 207 Section 305.1(k)(3)]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL (continued)

13. The permittee shall furnish to the SMAQMD Air Pollution Control Officer, within a reasonable time, any information that the SMAQMD Air Pollution Control Officer may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit pursuant to SMAQMD Rule 207 Section 411, or to determine compliance with this Title V permit. Upon request, the permittee shall also furnish to the SMAQMD Air Pollution Control Officer copies of records required to be kept by conditions of this permit or, for information claimed to be confidential, the permittee may furnish such records directly to the U.S. EPA along with a claim of confidentiality.
[Basis: SMAQMD Rule 207 Section 305.1(k)(4)]
14. Noncompliance with any federally enforceable requirement in this Title V permit is grounds for Title V permit termination, revocation and reissuance, modification, enforcement action, or denial of the Title V permit renewal application. Any violation of the Title V permit shall also be a violation of Rule 207.
[Basis: SMAQMD Rule 207 Section 305.1(k)(5)]
15. A pending Title V permit action (e.g. a proposed permit revision) or notification of anticipated noncompliance does not stay any permit condition.
[Basis: SMAQMD Rule 207 Section 305.1(k)(6)]
16. This Title V permit does not convey any property rights of any sort, or any exclusive privilege.
[Basis: SMAQMD Rule 207 Section 305.1(k)(7)]
17. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the SMAQMD Air Pollution Control Officer or an authorized representative to perform all of the following:
- A. Enter upon the stationary source's premises where this source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
 - B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Title V permit;
 - C. Inspect at reasonable times, the stationary source, equipment (including monitoring and air pollution control equipment), practices and operations regulated or required under this Title V permit, and;
 - D. As authorized by the Federal Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the Title V permit conditions or applicable federal requirements.
- [Basis: SMAQMD Rule 207 Section 413.1]**

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL (continued)

REPORTS AND RECORDKEEPING

18. Monitoring Reports

- A. The permittee shall submit to the SMAQMD Air Pollution Control Officer at least once every six months, unless required more frequently by an applicable requirement, reports of all required monitoring.
- B. The reporting periods for this permit shall be for the six month periods January 1 through June 30 and July 1 through December 31. The reports shall be submitted by July 30 and January 30 of each year respectively.
- C. All instances of deviations from Title V permit conditions must be clearly identified in such reports. All required reports must be certified by the responsible official and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

[Basis: SMAQMD Rule 207 Section 501.1]

19. Compliance Reports

- A. The permittee shall submit to the SMAQMD Air Pollution Control Officer and U.S. EPA (Air-3, U.S. EPA, Region IX) on an annual basis, unless required more frequently by additional applicable federal requirements such as Section 114(a)(3) and 504(b) (42 U.S.C. Sections 7414(a)(3) and 7661c(b)) of the Federal Clean Air Act, a certification of compliance by the responsible official with all terms and conditions contained in the Title V permit, including emission limitations, standards and work practices.
- B. The reporting period for this permit shall be January 1 through December 31. The report shall be submitted by January 30 of each year.
- C. All required reports must be certified by the responsible official and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
- D. The compliance certification shall include the following.
 - i. The identification of each term or condition of the Title V permit that is the basis of the certification.
 - ii. The method(s) used for determining the compliance status of the source, currently and over the reporting period, and whether such method(s) provides continuous or intermittent data.
 - iii. The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL (continued)

designated in Section D(ii) of this condition. The certification shall identify each deviation and take it into account in the compliance certification.

- a. If an emissions unit is subject to 40 CFR 64 Compliance Assurance Monitoring then the certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR 64 of this chapter occurred
- iv. Such other facts as the SMAQMD Air Pollution Control Officer may require to determine the compliance status of the source.
- v. In accordance with SMAQMD Rule 207 Section 305, a method for monitoring the compliance of the stationary source with its emissions limitations, standards and work practices.

[Basis: SMAQMD Rule 207 Section 413.4 and 40 CFR 70.6(c)(5)]

20. The permittee shall report within 24 hours of detection any deviation from a federally enforceable Title V permit condition not attributable to an emergency. In order to fulfill the reporting requirement of this condition, the permittee shall notify the SMAQMD Air Pollution Control Officer by telephone (within 24 hours) followed by a written statement (within 2 working days) describing the nature of the deviation from the federally enforceable permit condition.

[Basis: SMAQMD Rule 207 Section 501.3]

21. All monitoring data and support information required by a federally enforceable applicable requirement must be kept by the stationary source for a period of 5 years from the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the federally enforceable applicable requirement in the Title V permit.

[Basis: SMAQMD Rule 207 Section 502.3]

RINGELMANN CHART

22. Except as otherwise provided in SMAQMD Rule 401 Section 102, a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour which is:

- A. As dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
- B. Of such opacity as to obscure a human observer's view, or a certified calibrated in-stack opacity monitoring system to a degree equal to or greater than No. 1 on the Ringelmann Chart.

[Basis: SMAQMD Rule 401]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL (continued)

PARTICULATE MATTER

23. A person shall take every reasonable precaution not to cause or allow the emissions of fugitive dust from being airborne beyond the property line from which the emission originates, from any construction, handling or storage activity, or any wrecking, excavation, grading, clearing of land or solid waste disposal operation. Reasonable precautions shall include, but are not limited to:

- A. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the construction of roadways or the clearing of land.
- B. Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stockpiles and other surfaces which can give rise to airborne dusts;
- C. Other means approved by the SMAQMD Air Pollution Control Officer.

[Basis: SMAQMD Rule 403]

24. Except as otherwise provided in Condition 25, a person shall not discharge into the atmosphere from any source particulate matter in excess of 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot).

[Basis: SMAQMD Rule 404]

25. A person shall not discharge into the atmosphere particulate matter from the burning of any kind of material containing carbon in a free or combined state, from any single source of emission whatsoever, combustion contaminants in any state or combination thereof exceeding in concentration at the point of discharge: 0.23 grams per dry standard cubic meter (0.1 grains per dry standard cubic foot) of gas corrected to 12% carbon dioxide (CO₂) at standard conditions.

[Basis: SMAQMD Rule 406]

SULFUR COMPOUNDS

26. A person shall not discharge into the atmosphere from any single source of emission whatsoever sulfur compounds in any state or combination thereof exceeding in concentration at the point of discharge: sulfur compounds, calculated as sulfur dioxide (SO₂): 0.2% by volume.

[Basis: SMAQMD Rule 406]

27. Except as otherwise provided in SMAQMD Rule 420 Section 110, a person shall not burn any gaseous fuel containing sulfur compounds in excess of 1.14 grams per cubic meter (50 grains per 100 cubic feet) of gaseous fuel, calculated as hydrogen sulfide at standard conditions, or any liquid fuel or solid fuel having a sulfur content in excess of 0.5% by weight.

[Basis: SMAQMD Rule 420]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL (continued)

ARCHITECTURAL COATING AND SOLVENT CLEANING

28. Any coating applied to stationary structures and their appurtenances, to mobile homes, to pavements, or to curbs, shall meet the requirements of SMAQMD Rule 442.

[Basis: SMAQMD Rule 442 (09-05-1996 version)]

29. All VOC-containing materials used for architectural coating, including clean-up, shall be stored in closed containers when not in use. In use includes, but is not limited to: being accessed, filled, emptied, maintained or repaired.

[Basis: SMAQMD Rule 442 Section 304 (09-05-1996 version)]

30. The permittee shall comply with the requirements of SMAQMD Rule 466 Solvent Cleaning when using volatile organic compounds for the cleanup of architectural coating application equipment or for other applications of solvent cleaning at the facility.

[Basis: SMAQMD Rule 466 (10-28-2010 version, submitted to EPA, pending approval)]

31. The permittee shall keep a record of all architectural coatings purchased that are not clearly labeled as complying with the VOC content limits contained in SMAQMD Rule 442. Compliance in these cases can be determined by maintaining records of the manufacturer's certifications or by Material Safety Data Sheets (MSDS) that demonstrate compliance with the VOC limits of SMAQMD Rule 442.

[Basis: SMAQMD Rule 442 and Rule 207 Section 305 (09-05-1996 version)]

COMPLIANCE

32. Compliance with the conditions of the Title V permit shall be deemed compliance with all applicable requirements identified in the Title V permit.

[Basis: SMAQMD Rule 207 Section 307]

EQUIPMENT BREAKDOWNS

33. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology based emission limitations if the following conditions are met:

A. The affirmative defense of an emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- i. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
- ii. The permitted facility was at the time being properly operated;
- iii. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the Title V permit;

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL (continued)

- iv. The permittee submitted notice of the emergency to the SMAQMD Air Pollution Control Officer within two working days of the time when emissions limitations were exceeded due to the emergency. The notice must contain a description of the emergency, and corrective actions taken.

- B. In any enforcement proceedings, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

[Basis: SMAQMD Rule 207 Section 414]

- 34. The permittee shall notify the SMAQMD Air Pollution Control Officer of any occurrence which constitutes an emergency as defined in SMAQMD Rule 207 Section 212 as soon as reasonably possible, but no later than one hour after its detection. If the emergency occurs when the SMAQMD Air Pollution Control Officer cannot be contacted, the report of the emergency shall be made at the commencement of the next regular working day. The notification shall identify the time, specific location, equipment involved and, to the extent known, the cause(s) of the occurrence.

[Basis: SMAQMD Rule 207 Section 501.2]

PAYMENT OF FEES

- 35. The fee for (1) the issuance of an initial Title V operating permit, (2) the renewal and/or inspection of a Title V operating permit, (3) the modification of a Title V operating permit or (4) an administrative Title V permit amendment shall be based on the actual hours spent by the SMAQMD staff in evaluating the application and processing the operating permit. The fee shall be assessed in accordance with the hourly rate established in SMAQMD Rule 301 Section 308.12.

[Basis: SMAQMD Rule 207 Section 305.7 and Rule 301 Section 313]

- 36. After the provisions for granting permits as set forth in SMAQMD Rule 207 have been complied with, the permittee will be notified by mail of the fee due and payable and the date the fee is due. If the fee is not paid by the specified due date, the fee shall be increased by one half the amount and the applicant/permittee shall be notified by mail of the increased fee. If the increased fee is not paid within 30 days after notice the application/permit will be canceled/revoked and the applicant/permittee will be notified by mail.

[Basis: SMAQMD Rule 207 Section 305.7]

CLEAN AIR ACT FEES

- 37. After the U.S. EPA determines that the SMAQMD has failed to demonstrate attainment of the one hour ozone ambient air quality standard by the attainment year, the permittee, operating any major stationary source of ROC or NO_x, shall pay the Clean Air Act fees specified by the SMAQMD Air Pollution Control Officer in accordance with SMAQMD Rule 307.

[Basis: SMAQMD Rule 307]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL (continued)

EMISSION STATEMENTS

38. The permittee, when operating any stationary source that emits 25 tons or more per year of ROC or NO_x, shall annually provide the SMAQMD Air Pollution Control Officer with a written emission statement showing actual emissions of ROC and NO_x from that source.

[Basis: SMAQMD Rule 105]

ACCIDENTAL RELEASES

39. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall register and submit to the EPA the required data related to the risk management plan (RMP) for reducing the probability of accidental releases of any regulated substances listed pursuant to Section 112(r)(3) of the CAA as amended in 68.130. The list of substances, threshold quantities and accident prevention regulations promulgated under Part 68 do not limit in any way the general duty provisions under Section 112(r)(1).

[Basis: 40 CFR Part 68]

40. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall comply with the requirements of Part 68 no later than the latest of the following dates as provided in 68.10(a):

A. June 21, 1999,

B. Three years after the date on which a regulated substance is first listed under 68.130, or

C. The date on which a regulated substance is first present above a threshold quantity in a process.

[Basis: 40 CFR Part 68]

41. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall submit any additional relevant information requested by any regulatory agency necessary to ensure compliance with the requirements of 40 CFR Part 68.

[Basis: 40 CFR Part 68]

42. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall annually certify compliance with all applicable requirements of Section 112(r) as part of the annual compliance certification as required by Section 413.4 of Rule 207.

[Basis: 40 CFR Part 68]

TITLE VI REQUIREMENTS (OZONE DEPLETING SUBSTANCES)

43. Persons opening appliances containing CFCs for maintenance, service, repair or disposal must comply with the required practices pursuant to 40 CFR Section 82.156.

[Basis: 40 CFR Part 82 Subpart F]

III. FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL (continued)

44. Equipment used during the maintenance, service, repair, or disposal of appliances containing CFCs must comply with the standards for recycling and recovery equipment pursuant to 40 CFR Section 82.158.

[Basis: 40 CFR Part 82 Subpart F]

45. Persons performing maintenance, service, repair or disposal of appliances containing CFCs must be certified by an approved technician certification program pursuant to 40 CFR Section 82.161. **[Basis: 40 CFR Part 82 Subpart F]**

ASBESTOS

46. The permittee shall comply with all requirements of 40 CFR 61 Subpart M National Emission Standard for Asbestos

[Basis: 40 CFR Part 61 Subpart M National Emission Standard for Asbestos]

IV. NON-FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL

APPLICABILITY:

1. The requirements outlined in this section pertain to the SMAQMD Rule 201 Permit to Operate and are not part of the Title V permit.

LOCAL PERMIT RENEWAL:

2. Permits to Operate issued to the permittee, pursuant to SMAQMD Rule 201 (non-Title V Permits to Operate), shall be renewed annually on April 1 and upon payment of the permit renewal fee established pursuant to SMAQMD Rule 301.
3. The SMAQMD Air Pollution Control Officer shall review every SMAQMD Rule 201 Permit to Operate upon annual renewal, pursuant to California Health and Safety Code Section 42301(c), to determine that permit conditions are adequate to ensure compliance with, and the enforceability of, SMAQMD rules and regulations applicable to the article, machine, equipment or contrivance for which the permit was issued. Applicable SMAQMD rules and regulations shall include those which were in effect at the time the permit was issued or modified, or which have subsequently been adopted and made retroactively applicable to an existing article, machine, equipment or contrivance, by the SMAQMD Board of Directors. The SMAQMD Air Pollution Control Officer shall revise the conditions, if such conditions are not consistent, in accordance with all applicable rules and regulations.

GENERAL

4. The SMAQMD Air Pollution Control Officer and/or authorized representatives, upon the presentation of credentials shall be permitted:
 - A. To enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this permit to operate, and
 - B. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Permit to Operate, and
 - C. To inspect any equipment, operation, or method required in this Permit to Operate, and
 - D. To sample emissions from the source or require samples to be taken.
5. Legible copies of all SMAQMD Rule 201 Permits to Operate shall be maintained on the premises with the equipment.

EQUIPMENT OPERATION:

6. The equipment shall be properly maintained.

IV. ~~NON-FEDERALLY ENFORCEABLE~~ REQUIREMENTS - GENERAL (continued)

7. This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3 of the Health and Safety Code of the State of California or the Rules and Regulations of the SMAQMD.

EQUIPMENT BREAKDOWNS:

8. The permittee shall notify the SMAQMD Air Pollution Control Officer of any occurrence which constitutes a breakdown as defined in Section 201 of Rule 602 as soon as reasonably possible, but no later than one hour after its detection. If the breakdown occurs when the SMAQMD Air Pollution Control Officer cannot be contacted, the report of breakdown shall be made at the commencement of the next regular working day. The notification shall identify the time, specific location, equipment involved, and to the extent known the cause(s) of the occurrence.
9. Upon notification of the breakdown condition, the SMAQMD Air Pollution Control Officer shall investigate the breakdown condition in accordance with uniform written procedures and guidelines relating to logging of initial reports on appropriate forms, investigation, and enforcement follow-up. If the occurrence does not constitute a breakdown condition, the Air Pollution Control Officer may take appropriate enforcement action.
10. An occurrence which constitutes a breakdown condition, and which persists only until the end of the production run or 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment, for which the period shall be 96 hours) shall constitute a violation of any applicable emission limitation or restriction prescribed by these Rules and Regulations; however, the SMAQMD Air Pollution Control Officer may elect to take no enforcement action if the owner or operator demonstrates to his satisfaction that a breakdown condition exists and the following requirements are met:
- A. The notification required in Section 301.1 of Rule 602 is made; and
 - B. Immediate appropriate corrective measures are undertaken and compliance is achieved, or the process is shutdown for corrective measures before commencement of the next production run or within 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment for which the period shall be 96 hours). If the owner or operator elects to shut down rather than come into immediate compliance, (s)he must nonetheless take whatever steps are possible to minimize the impact of the breakdown within the 24 hour period; and
 - C. The breakdown does not interfere with the attainment and maintenance of any national ambient air quality standard.
11. An occurrence which constitutes a breakdown condition shall not persist longer than the end of the production run or 24 hours, whichever is sooner (except for continuous air pollution monitoring equipment, for which the period shall be 96 hours), unless an emergency variance has been obtained.

IV. ~~NON-FEDERALLY ENFORCEABLE~~ REQUIREMENTS - GENERAL (continued)

12. If the breakdown condition will either require more than 24 hours to correct or persists longer than the end of the production run (except for continuous air pollution monitoring equipment, for which the period shall be 96 hours) the owner or operator may, in lieu of shutdown, request the SMAQMD Air Pollution Control Officer to commence the emergency variance procedure set forth in SMAQMD Rule 602 Section 304.
13. No emergency variance shall be granted unless the chairperson of the SMAQMD Hearing Board or other designated member(s) of the Hearing Board finds that:
 - A. The occurrence constitutes a breakdown condition;
 - B. Continued operation is not likely to create an immediate threat or hazard to public health or safety; and
 - C. The requirements for a variance set forth in Health and Safety Code Sections 42352 and 42353 have been met;
 - D. The continued operation in a breakdown condition will not interfere with the attainment or maintenance of the national ambient air quality standards.
14. At any time after an emergency variance has been granted, the SMAQMD Air Pollution Control Officer may request for good cause that the chairperson or designated member(s) reconsider and revoke, modify or further condition the variance. The procedures set forth in SMAQMD Rule 602 Section 304.1 shall govern any further proceedings conducted under this section.
15. An emergency variance shall remain in effect only for as long as necessary to repair or remedy the breakdown condition, but in no event after a properly noticed hearing to consider an interim or 90 day variance has been held, or 15 days from the date of the subject occurrence, whichever is sooner.
16. Within one week after a breakdown condition has been corrected, the owner or operator shall submit a written report to the SMAQMD Air Pollution Control Officer on forms supplied by the SMAQMD Air Pollution Control Officer describing the causes of the breakdown, corrective measures taken, estimated emissions during the breakdown and a statement that the condition has been corrected, together with the date of correction and proof of compliance. The SMAQMD Air Pollution Control Officer may, at the request of the owner or operator for good cause, extend up to 30 days the deadline for submittal of the report described in this subsection.
17. The burden of proof shall be on the owner or operator of the source to provide sufficient information to demonstrate that a breakdown did occur. If the owner or operator fails to provide sufficient information, the SMAQMD Air Pollution Control Officer shall undertake appropriate enforcement action.

IV. ~~NON~~-FEDERALLY ENFORCEABLE REQUIREMENTS - GENERAL (continued)

18. Any failure to comply, or comply in a timely manner, with the reporting requirements established in SMAQMD Rule 602 Sections 301.1 and 401 shall constitute a separate violation of this rule.
19. It shall constitute a separate violation of this rule for any person to file with the SMAQMD Air Pollution Control Officer a report which falsely, or without probable cause, claims that an occurrence is a breakdown condition.

ARCHITECTURAL COATINGS

20. Unless applied by an aerosol can or contained within a volume of one liter or less any person who supplies, sells, offers for sale or manufactures any architectural coating for use within the SMAQMD, as well as any person who applies or solicits the application of any architectural coating within the SMAQMD shall meet the requirements of SMAQMD Rule 442.

[Basis: SMAQMD Rule 442 (05-24-2001 version)]

**V-A. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(5) IC ENGINE, EMERGENCY USE /ELECTRICAL
GENERATOR, ≤ 500 HP, DIESEL FUEL**

A. EQUIPMENT DESCRIPTION: The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
10294	50 hp Cummins, model no. 6A3-4-G1, serial no. 53132157	J-Area
10423	299 hp Caterpillar, model 3208, serial no. 5YF00294	30015
10426	134 hp GM Detroit, model 10437305, serial no. 4A0214108	20022
14748	335 hp Generac, model 99A06418-5, serial no. 2051487	20001
18758	153 hp John Deere, model 40445H serial no. PE4045H513942	00003

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified in this section are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. The IC engine shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.

[Basis: SMAQMD Rule 401]

2. Combustion contaminants from each IC engine shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot of gas corrected to 12% CO₂ at standard conditions.

[Basis: SMAQMD Rule 406]

**V-A. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(5) IC ENGINE, EMERGENCY USE /ELECTRICAL
GENERATOR, ≤ 500 HP, DIESEL FUEL
(continued)**

3. Emissions from the specified IC engine shall not exceed the following limits:
[Basis: SMAQMD Rule 202]

PO No. 10294				
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)		
		Pounds/Day	Pounds/Quarter	Pounds/Year
ROC	1.14	3.0	25	25
NOx	14.1	37.3	311	311
SO2	0.005	0.01	0.1	0.1
PM10	1.00	2.6	22	22
CO	3.03	8.0	67	67

- (A) Emission factors for ROC, NOx, PM10 and CO are based on uncontrolled values from U.S. EPA AP42, Table 3.3-1 (10/96). Emission factor for SO2 is from U.S. EPA AP42, Table 3.3-1 (10/96) using a fuel sulfur content of 15 ppm.
(B) Emissions are based on 50 bhp, 24 hr/day, 200 hr/quarter, 200 hr/year of operation, and the emission factors in this table.

PO No. 10423				
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)		
		Pounds/Day	Pounds/Quarter	Pounds/Year
ROC	1.14	18.0	150	150
NOx	14.1	223.1	1859	1859
SO2	0.005	0.08	0.7	0.7
PM10	1.00	15.8	132	132
CO	3.03	47.9	399	399

- (A) Emission factors for ROC, NOx, PM10 and CO are based on uncontrolled values from U.S. EPA AP42, Table 3.3-1 (10/96). Emission factor for SO2 is from U.S. EPA AP42, Table 3.3-1 (10/96) using a fuel sulfur content of 15 ppm.
(B) Emissions are based on 299 bhp, 24 hr/day, 200 hr/quarter, 200 hr/year of operation, and the emission factors in this table.

**V-A. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(5) IC ENGINE, EMERGENCY USE /ELECTRICAL
GENERATOR, ≤ 500 HP, DIESEL FUEL
(continued)**

PO No. 10426				
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)		
		Pounds/Day	Pounds/Quarter	Pounds/Year
ROC	1.14	8.1	67	67
NOx	14.1	100.0	833	833
SO2	0.005	0.04	0.3	0.3
PM10	1.00	7.1	59	59
CO	3.03	21.5	179	179

(A) Emission factors for ROC, NOx, PM10 and CO are based on uncontrolled values from U.S. EPA AP42, Table 3.3-1 (10/96). Emission factor for SO2 is from U.S. EPA AP42, Table 3.3-1 (10/96) using a fuel sulfur content of 15 ppm.

(B) Emissions are based on 134 bhp, 24 hr/day, 200 hr/quarter, 200 hr/year of operation, and the emission factors in this table.

PO No. 14748				
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)		
		Pounds/Day	Pounds/Quarter	Pounds/Year
ROC	1.14	20.2	168	168
NOx	14.1	106.7	889	889
SO2	0.005	0.09	0.7	0.7
PM10	0.26	4.6	38	38
CO	0.83	14.7	123	123

(A) Emission factors for ROC and NOx are based on uncontrolled values from U.S. EPA AP42, Table 3.3-1 (10/96). Emission factor for SO2 is from U.S. EPA AP42, Table 3.3-1 (10/96) using a fuel sulfur content of 15 ppm. Emission factors for PM10 and CO are from manufacturer's data.

(B) Emissions are based on 335 bhp, 24 hr/day, 200 hr/quarter, 200 hr/year of operation, and the emission factors in this table.

**V-A. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(5) IC ENGINE, EMERGENCY USE /ELECTRICAL
GENERATOR, ≤ 500 HP, DIESEL FUEL
(continued)**

PO No. 18758				
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (C)		
		Pounds/Day	Pounds/Quarter	Pounds/Year
ROC	0.19	2	13	13
NOx	4.9	40	331	331
SO2	0.005	0.04	0.3	0.3
PM10	0.149	1	10	10
CO	3.7	30	250	250

(A) Emission factors for ROC, NOx and CO are based on BACT limits. Emission factor for PM10 is based on TBACT limits. Emission factor for SO2 is from U.S. EPA AP42, Table 3.3-1 (10/96) using a fuel sulfur content of 15 ppm.

(B) Emissions are based on 153 bhp, 24 hr/day, 200 hr/quarter, 200 hr/year of operation, and the emission factors in this table.

EQUIPMENT OPERATION REQUIREMENTS

4. The specified IC engine shall operate only for the following purposes and shall not operate more than the following hours:

[Basis: SMAQMD Rules 201 and 202]

PO No.	Type of Operational Hours	Maximum Allowable Operation per Engine	
		hours/quarter	hours/year
10294 10423 10426	Maintenance Purposes (A)	20	20
14748	Maintenance Purposes (A)	30	30
18758	Maintenance Purposes (A)	50	50
10294 10423 10426 14748 18758	Maintenance Purposes Plus Actual Interruption of Power by the Serving Utility (B)	200	200

(A) Maintenance purposes is defined as: the operation of an IC engine in order to preserve the integrity of the IC engine and its associated generator or the facility's electrical distribution system.

**V-A. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(5) IC ENGINE, EMERGENCY USE /ELECTRICAL
GENERATOR, ≤ 500 HP, DIESEL FUEL
(continued)**

(B) Actual interruption of power is defined as: when electrical service from the serving utility is interrupted by an unforeseeable event.

5. Each IC engine shall be fueled with CARB diesel fuel, or an alternative diesel fuel that meets the requirements of the verification procedure (as codified in CCR Title 13, Sections 2700-2710), or an alternative fuel, or CARB diesel fuel used with fuel additives that meet the requirements of the verification procedure or any combination of fuels listed in this condition.

[Basis: SMAQMD Rule 202]

6. The specified IC engine shall be equipped with a non-resetting hour meter, with a minimum display capability as indicated in the table below, to ensure compliance with Condition Nos. 3 and 4.

[Basis: SMAQMD Rule 202]

PO No.	Minimum Hourmeter Display Capability
10294 10423 10426 14748	999 hours
18758	9,999 hours

7. Upon request of the SMAQMD Air Pollution Control Officer, once each year, during daylight hours, each IC engine shall be run at maximum anticipated load, from a cold start condition, for observation of compliance with opacity limitations.

[Basis: SMAQMD Rule 202]

**V-A. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(5) IC ENGINE, EMERGENCY USE /ELECTRICAL
GENERATOR, ≤ 500 HP, DIESEL FUEL
(continued)**

RECORD KEEPING AND REPORTING REQUIREMENTS

8. The following record shall be continuously maintained onsite for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Monthly, quarterly and yearly records shall be made available within 30 days following the end of the reporting period.

[Basis: SMAQMD Rule 202]

Frequency	Information to be recorded for each IC engine
When operated	A. Date. B. Purpose - either maintenance (M) or emergency (E). C. Number of hours of operation.
Monthly	D. Total number of hours of operation for each operating mode (maintenance and emergency). (hours/month)
Quarterly	E. Total number of hours of operation of each operating mode (maintenance and emergency). (hours/calendar quarter)
Yearly	F. Total number of hours of operation of each operating mode (maintenance and emergency). (hours/year)
All fuel deliveries	G. Retain fuel purchase records that account for all fuel purchased for use in all engines. Fuel purchase records shall include: i. Identification of type of fuel (CARB diesel, alternate diesel etc.) ii. Quantity of fuel purchased. iii. Date of fuel purchase. iv. Signature of person receiving fuel. v. Signature of fuel provider indicating that fuel was delivered.

**V-A. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(5) IC ENGINE, EMERGENCY USE /ELECTRICAL
GENERATOR, ≤ 500 HP, DIESEL FUEL
(continued)**

FUTURE EFFECTIVE REQUIREMENTS 05-03-2013

The following permit conditions are future effective requirements for -

40 CFR 63 Subpart ZZZZ - National Emissions
Standards for Hazardous Air Pollutants (NESHAP) for
Stationary Reciprocating Internal Combustion Engines
[begin at 40 CFR 63.6580]

**NOTE - CONDITION NOS. 9 - 14 DO NOT BECOME
EFFECTIVE UNTIL MAY 3, 2013.**

9. The following Maintenance Management Practices (MMP) shall be performed in accordance with the following schedule.
[Basis: 40 CFR 63.6602 and Subpart ZZZZ Table 2C]

Maintenance Activity	Frequency
A. Change oil and filter	At least once every calendar year
B. Inspect air cleaner	At least once every calendar year
C. Inspect all hoses and belts	At least once every calendar year

10. If the IC engine is operating during an emergency and it is not possible to shut down the IC engine in order to perform the MMP on the schedule required in Condition No. 9, or if performing the MMP on the required schedule would otherwise pose an unacceptable risk under federal, state or local law, the specific MMP can be delayed until the emergency is over or the unacceptable risk has abated. The MMP should be performed as soon as practicable after the emergency has ended or the unacceptable risk has abated. Sources must report to the federal administrator any failure to perform the MMP on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[Basis: 40 CFR 63.6602 and Subpart ZZZZ Table 2C Footnote 1]

**V-A. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(5) IC ENGINE, EMERGENCY USE /ELECTRICAL
GENERATOR, ≤ 500 HP, DIESEL FUEL
(continued)**

FUTURE EFFECTIVE REQUIREMENTS 05-03-2013

11. As an alternative to Condition No. 9A, the owner/operator has the option to utilize an oil analysis program as described below in order to extend the specified oil and filter change requirement.
- A. The oil analysis must be performed at the same frequency specified for changing the oil as specified above.
 - B. The analysis program must at a minimum analyze the following three parameters: total base number, viscosity, and percent water content.
 - C. The condemning limits for these parameters are as follows: total base number is less than 30 percent of the total base number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5.
 - D. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil.
 - E. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis.
 - F. If the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later.
 - G. The oil analysis program shall be part of the maintenance plan for the engine as specified in Condition No. 17.

[Basis: 40 CFR 63.6625(i)]

**V-A. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(5) IC ENGINE, EMERGENCY USE /ELECTRICAL
GENERATOR, ≤ 500 HP, DIESEL FUEL
(continued)**

FUTURE EFFECTIVE REQUIREMENTS 05-03-2013

12. The operator shall minimize the IC engine's time spent at idle during startup and minimize the IC engine's startup time to a period needed for appropriate and safe loading of the IC engine.

[Basis: 40 CFR 63.6625(h)]

13. The IC engine shall be maintained according to the manufacturer's emission-related operation and maintenance instructions or the owner/operator can develop and follow their own maintenance plan in accordance with good air pollution control practices.

[Basis: 40 CFR 63.6625(e)(2)]

14. The following records shall be continuously maintained onsite for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request.

Frequency	Information to be Recorded
When event occurs	<p>A. Occurrence and duration of each malfunction of operation (i.e. process equipment) or the air pollution control and monitoring equipment . [Basis: 40 CFR 63.6655(a)(2)]</p> <p>B. Actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the malfunctioning process to its normal or usual manner of operation. [Basis: 40 CFR 63.6655(a)(5)]</p> <p>C. All maintenance conducted on the IC engine (e.g. change oil and filter, inspect air cleaner and inspect all hoses and belts). [Basis: 40 CFR 63.6655(e)(2)]</p> <p>D. If the oil analysis option is utilized as specified in Condition No. 11., records of the parameters that are analyzed as part of the oil analysis program and the results of the analysis. [Basis: 40 CFR 63.6625(i)]</p>

**V-B. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(3) IC ENGINE, EMERGENCY USE /ELECTRICAL
GENERATOR, > 500 HP, DIESEL FUEL**

A. EQUIPMENT DESCRIPTION: The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
10422	830 hp Detroit Diesel, model no. 6A13506, serial no. DD12VF002353	Portable
21136	568 hp Detroit Diesel, model 8V-92A, serial no. 8VF1777262. Retrofitted with Clean Cam Technology System (CARB Executive Order G-096-029-024-A)	Portable
21619	619 hp Caterpillar, model C15, serial no. FSE01980	Portable

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified in this section are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. Each IC engine shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.
[Basis: SMAQMD Rule 401]
2. Combustion contaminants from each IC engine shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot of gas corrected to 12% CO₂ at standard conditions.
[Basis: SMAQMD Rule 406]

**V-B. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(3) IC ENGINE, EMERGENCY USE /ELECTRICAL
GENERATOR, > 500 HP, DIESEL FUEL
(continued)**

3. Emissions from the specified IC engine shall not exceed the following limits:
[Basis: SMAQMD Rule 202]

PO No. 10422				
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)		
		Pounds/Day	Pounds/Quarter	Pounds/Year
ROC	1.12	49.2	410	410
NOx	14	614.8	5123	5123
SO2	0.005	0.22	1.8	1.8
PM10	1.0	43.9	366	366
CO	3.03	133.1	1109	1109

- (A) Emission factors for ROC, NOx, PM10 and CO are based on uncontrolled values from U.S. EPA AP42, Table 3.4-1 (10/96). Emission factor for SO2 is from U.S. EPA AP42, Table 3.4-1 (10/96) using a fuel sulfur content of 15 ppm.
(B) Emissions are based on 830 bhp, 24 hr/day, 200 hr/quarter, 200 hr/year of operation, and the emission factors in this table.

PO No. 21136				
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)		
		Pounds/Day	Pounds/Quarter	Pounds/Year
ROC	1.0	30	250	250
NOx	6.9	207	1,728	1,728
SO2	0.005	0.15	1.3	1.3
PM10	0.16	5	40	40
CO	8.5	255	2,129	2,129

- (A) Emission factors for NOx, CO, ROC, and PM10 are based on manufacturer's data. SO2 emissions are based on 15 ppm sulfur by weight in the fuel.
(B) Based on 568 hp, 24 hr/day, 200 hours/quarter and 200 hours/year of operation.

**V-B. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(3) IC ENGINE, EMERGENCY USE /ELECTRICAL
GENERATOR, > 500 HP, DIESEL FUEL
(continued)**

PO No. 21619				
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)		
		Pounds/Day	Pounds/Quarter	Pounds/Year
ROC	1.0	33	273	273
NOx	3.0	98	819	819
NOx+ROC	3.0	98	819	819
SO2	0.005	0.16	1.4	1.4
PM10	0.15	5	41	41
CO	2.6	85	710	710

(A) Emission factors are based on BACT limits, with SO2 emissions based on 0.0015% sulfur by weight in the fuel.

(B) Emissions based on 568 hp, 24 hr/day, 200 hours/quarter and 200 hours/year of operation.

(C) The IC engine is required to comply with the combined NOx+ROC emission standard. For the purpose of calculating NOx and ROC individually, ROC emissions are assessed at the worst case scenario of the uncontrolled U.S. EPA AP42 emission factor of 1.0 g/bhp-hr and NOx emissions are assessed at the worst case limit of 3.0 g/bhp-hr. BACT is only triggered for individual pollutants.

EQUIPMENT OPERATION

4. The specified IC engine shall operate only for the following purposes and shall not operate more than the following hours:

[Basis: SMAQMD Rules 201 and 202]

PO No.	Type of Operational Hours	Maximum Allowable Operation per IC Engine	
		hours/quarter	hours/year
10422	Maintenance Purposes (A)	20	20
21136	Maintenance Purposes (A)	30	30
21619	Maintenance Purposes (A)	50	50
10422 21136 21619	Maintenance Purposes Plus Actual Interruption of Power by the Serving Utility (B)	200	200

**V-B. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(3) IC ENGINE, EMERGENCY USE /ELECTRICAL
GENERATOR, > 500 HP, DIESEL FUEL
(continued)**

(A) Maintenance purposes is defined as: the operation of an IC engine in order to preserve the integrity of the IC engine and its associated generator or the facility's electrical distribution system.

(B) Actual interruption of power is defined as: when electrical service from the serving utility is interrupted by an unforeseeable event. For PO No. 10422, actual interruption of power is defined as when electrical service from the service utility is interrupted by an unforeseeable event or when the power reserves of the serving utility fall below 5%.

5. Each IC engine shall be fueled with CARB diesel fuel, or an alternative diesel fuel that meets the requirements of the verification procedure (as codified in CCR Title 13, Sections 2700-2710), or an alternative fuel, or CARB diesel fuel used with fuel additives that meet the requirements of the verification procedure, or any combination of fuels listed in this condition.

[Basis: SMAQMD Rules 201 and 202]

6. The specified IC engine shall be equipped with a non-resetting hour meter, with a minimum display capability as indicated in the table below, to ensure compliance with Condition Nos. 3 and 4.

[Basis: SMAQMD Rules 201 and 202]

PO No.	Minimum Hourmeter Display Capability
10422	999 hours
21136 21619	9,999 hours

7. Upon request of the SMAQMD Air Pollution Control Officer, once each year, during daylight hours, each IC engine shall be run at maximum anticipated load, from a cold start condition, for observation of compliance with opacity limitations.

[Basis: SMAQMD Rule 202]

**V-B. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(3) IC ENGINE, EMERGENCY USE /ELECTRICAL
GENERATOR, > 500 HP, DIESEL FUEL
(continued)**

RECORD KEEPING AND REPORTING REQUIREMENTS

8. The following record shall be continuously maintained onsite for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Monthly, quarterly and yearly records shall be made available within 30 days following the end of the reporting period.

[Basis: SMAQMD Rule 202]

Frequency	Information to be recorded for each IC engine
When operated	A. Date. B. Purpose - either maintenance (M) or emergency (E). C. Number of hours of operation.
Monthly	D. Total number of hours of operation for each operating mode (maintenance and emergency). (hours/month.)
Quarterly	E. Total number of hours of operation of each operating mode (maintenance and emergency). (hours/calendar quarter)
Yearly	F. Total number of hours of operation of each operating mode (maintenance and emergency). (hours/year)
All fuel deliveries	G. Retain fuel purchase records that account for all fuel purchased for use in all engines. Fuel purchase records shall include: i. Identification of type of fuel (CARB diesel, alternate diesel etc.) ii. Quantity of fuel purchased. iii. Date of fuel purchase. iv. Signature of person receiving fuel. v. Signature of fuel provider indicating that fuel was delivered.

**V-C. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(14) IC ENGINE, EMERGENCY USE/FIRE PUMP,
DIESEL FUEL**

A. EQUIPMENT DESCRIPTION: The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
10408	182 hp Cummins engine, Model No.6-BTA5.9, Serial No. 44675473	37013
10434	115 hp GM Detroit engine, Model No.4061A, Serial No. 4A-29520	00017
10435	115 hp GM Detroit engine, Model No.4061A, Serial No. 4A-29519	00017
10436	115 hp GM Detroit engine, Model No.4061A, Serial No. 4A-29518	00017
10437	250 hp GM Detroit engine, Model No. unknown, Serial No. 313596	00017
10438	115 hp GM Detroit engine, Model No.4061A, Serial No. 4A-29521	00017
10439	152 hp Cummins engine, Model NT-495-FP, Serial No. 25147741	20007
10440	152 hp Cummins engine, Model NT-495-FP, Serial No. 25149920	20010
10441	115 hp GM Detroit engine, Model No.4061A, Serial No. APD B51852	15011
10442	115 hp GM Detroit engine, Model No.4061A, Serial No. APD B51851	15011
10443	340 hp Cummins engine, Model NT-855-F3, Serial No. 11422248	46046
10444	340 hp Cummins engine, Model No.NT-855-F3, Serial No. 11422553	46046
10445	170 hp Cummins engine, Model No.NY-495-FP, Serial No. 25155927	32010
10446	340 hp Cummins engine, Model NT-855-F3, Serial No. 11422554	32010

**V-C. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(14) IC ENGINE, EMERGENCY USE/FIRE PUMP,
DIESEL FUEL
(continued)**

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified in this section are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

- Each IC engine shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.

[Basis: SMAQMD Rule 401]

- Combustion contaminants from each IC engine shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot of gas corrected to 12% CO₂ at standard conditions.

[Basis: SMAQMD Rule 406]

- Emissions from the specified IC engine shall not exceed the following limits:

[Basis: SMAQMD Rule 202]

PO No. 10408				
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)		
		Pounds/Day	Pounds/Quarter	Pounds/Year
ROC	1.14	11	91	91
NOx	14.1	135.8	1,131	1,131
SO2	0.005	0.05	0.4	0.4
PM10	1.00	9.6	80	80
CO	3.03	29.2	243	243

(A) Emission factors for ROC, NOx, PM10 and CO are based on uncontrolled values from U.S. EPA AP42, Table 3.3-1 (10/96). Emission factor for SO2 is from U.S. EPA AP42, Table 3.4-1 (10/96) using a fuel sulfur content of 15 ppm.

(B) Emissions are based on 182 bhp, 24 hr/day, 200 hr/quarter, 200 hr/year of operation, and the emission factors in this table.

**V-C. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(14) IC ENGINE, EMERGENCY USE/FIRE PUMP,
DIESEL FUEL
(continued)**

PO Nos. 10434, 10435, 10436, 10438, 10441, 10442				
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)		
		Pounds/Day	Pounds/Quarter	Pounds/Year
ROC	1.14	6.9	58	58
NOx	14.1	85.8	715	715
SO2	0.005	0.03	0.3	0.3
PM10	1.0	6.1	51	51
CO	3.03	18.4	154	154

(A) Emission factors for ROC, NOx, PM10 and CO are based on uncontrolled values from U.S. EPA AP42, Table 3.3-1 (10/96). Emission factor for SO2 is from U.S. EPA AP42, Table 3.3-1 (10/96) using a fuel sulfur content of 15 ppm.

(B) Emissions are based on 115 bhp, 24 hr/day, 200 hr/quarter, 200 hr/year of operation, and the emission factors in this table.

PO No. 10437				
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)		
		Pounds/Day	Pounds/Quarter	Pounds/Year
ROC	1.14	15.1	126	126
NOx	14.1	186.5	1554	1554
SO2	0.005	0.1	0.6	0.6
PM10	1.0	13.2	110	110
CO	3.03	40.1	334	334

(A) Emission factors for ROC, NOx, PM10 and CO are based on uncontrolled values from U.S. EPA AP42, Table 3.3-1 (10/96). Emission factor for SO2 is from U.S. EPA AP42, Table 3.3-1 (10/96) using a fuel sulfur content of 15 ppm.

(B) Emissions are based on 250 bhp, 24 hr/day, 200 hr/quarter, 200 hr/year of operation, and the emission factors in this table.

**V-C. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(14) IC ENGINE, EMERGENCY USE/FIRE PUMP,
DIESEL FUEL
(continued)**

PO Nos. 10439, 10440				
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)		
		Pounds/Day	Pounds/Quarter	Pounds/Year
ROC	1.14	9.2	76	76
NOx	14.1	113.4	945	945
SO2	0.005	0.04	0.3	0.3
PM10	1.0	8.0	67	67
CO	3.03	24.4	203	203

(A) Emission factors for ROC, NOx, PM10 and CO are based on uncontrolled values from U.S. EPA AP42, Table 3.3-1 (10/96). Emission factor for SO2 is from U.S. EPA AP42, Table 3.3-1 (10/96) using a fuel sulfur content of 15 ppm.

(B) Emissions are based on 152 bhp, 24 hr/day, 200 hr/quarter, 200 hr/year of operation, and the emission factors in this table.

PO Nos. 10443, 10444, 10446				
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)		
		Pounds/Day	Pounds/Quarter	Pounds/Year
ROC	1.14	20.5	171	171
NOx	14.1	253.7	2114	2114
SO2	0.005	0.09	0.7	0.7
PM10	1.0	18.0	150	150
CO	3.03	54.5	454	454

(A) Emission factors for ROC, NOx, PM10 and CO are based on uncontrolled values from U.S. EPA AP42, Table 3.3-1 (10/96). Emission factor for SO2 is from U.S. EPA AP42, Table 3.3-1 (10/96) using a fuel sulfur content of 15 ppm.

(B) Emissions are based on 340 bhp, 24 hr/day, 200 hr/quarter, 200 hr/year of operation, and the emission factors in this table.

**V-C. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(14) IC ENGINE, EMERGENCY USE/FIRE PUMP,
DIESEL FUEL
(continued)**

PO No. 10445				
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)		
		Pounds/Day	Pounds/Quarter	Pounds/Year
ROC	1.14	10.3	85	85
NOx	14.1	126.8	1057	1057
SO2	0.005	0.045	0.4	0.4
PM10	1.0	9.0	75	75
CO	3.03	27.3	227	227

(A) Emission factors for ROC, NOx, PM10 and CO are based on uncontrolled values from U.S. EPA AP42, Table 3.3-1 (10/96). Emission factor for SO2 is from U.S. EPA AP42, Table 3.3-1 (10/96) using a fuel sulfur content of 15 ppm.

(B) Emissions are based on 170 bhp, 24 hr/day, 200 hr/quarter, 200 hr/year of operation, and the emission factors in this table.

EQUIPMENT OPERATION

4. Each IC engine shall operate only for the following purposes and shall not operate more than the following hours:

[Basis: SMAQMD Rules 201 and 202]

Type of Operational Hours	Maximum Allowable Operation per IC Engine		
	hr/day	hr/qtr	hr/year
Maintenance Purposes (A): Weekly Testing – NFPA 25, Sec. 5-3.2.2 Annual Testing (no flow) – NFPA 25, Sec. 5-3.3.2.1 Annual Testing (flow) – NFPA 25, Sec. 5-3.3.1 Quarterly Testing – NFPA 25, Sec. 9-5.2.1 Every Five Years – NFPA 25, Sec. 9-5.2.2	0.5 1 1 0.5 4	40	40
Maintenance Purposes Plus Emergency Water Pumping for Fire Suppression(B)	NA	200	200

(A) Maintenance purposes is defined as: The necessary operation of an IC engine in order to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 – “Standards for Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems,” 1998 edition or when required by the

**V-C. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(14) IC ENGINE, EMERGENCY USE/FIRE PUMP,
DIESEL FUEL
(continued)**

SMAQMD to verify compliance with the applicable rules and regulations.

- (B) Emergency is defined as: When a fire is detected and the fire pump is operated to supply water for fire suppression.

5. Each IC engine shall be fueled with CARB diesel fuel, or an alternative diesel fuel that meets the requirements of the verification procedure (as codified in CCR Title 13, Sections 2700-2710), or an alternative fuel, or CARB diesel fuel used with fuel additives that meet the requirements of the verification procedure, or any combination of fuels listed in this condition.

[Basis: SMAQMD Rules 201 and 202]

6. The specified IC engine shall be equipped with a non-resetting hour meter or a computerized tracking system, as indicated below, to ensure compliance with Condition Nos. 3 and 4.

[Basis: SMAQMD Rules 201 and 202]

PO No.	Type of Device or System for Monitoring Hours of Operation
10408 10434 10435 10436 10437 10438 10439 10440 10443 10444 10445 10446	Non-resetting hour meter with a minimum display capability of 999 hours
10441 10442	Computerized tracking system

7. Upon request of the SMAQMD Air Pollution Control Officer, once each year, during daylight hours, each IC engine shall be run at maximum anticipated load, from a cold start condition, for observation of compliance with opacity limitations.

[Basis: SMAQMD Rule 202]

**V-C. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(14) IC ENGINE, EMERGENCY USE/FIRE PUMP,
DIESEL FUEL
(continued)**

RECORD KEEPING AND REPORTING REQUIREMENTS

8. The following record shall be continuously maintained onsite for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Monthly, quarterly and yearly records shall be made available within 30 days following the end of the reporting period.

[Basis: SMAQMD Rules 201 and 202]

Frequency	Information to be recorded for each engine
When operated	A. Date. B. Purpose - either maintenance (M) or emergency(E). C. Number of hours of operation.
When operated for maintenance	D. When operating for maintenance purposes, the daily record shall also include the type of maintenance performed: i. Weekly run (NFPA 25, Sec. 5-3.2.2) ii. Annual no flow test (NFPA 25, Sec. 5-3.3.2.1) iii. Annual flow test (NFPA 25, Sec. 5-3.3.1) iv. Quarterly test (NFPA 25, Sec. 9-5.2.1) v. Quinquennial (every 5 years) testing (NFPA 25, Sec. 9-5.2.2) vi. Required by SMAQMD vii. Repair verification (describe repair performed)
Monthly	E. Total number of hours of operation for each operating mode (maintenance and emergency). (hours/month)
Quarterly	F. Total number of hours of operation of each operating mode (maintenance and emergency). (hours/calendar quarter)
Yearly	G. Total number of hours of operation of each operating mode (maintenance and emergency). (hours/year)
All fuel deliveries	H. Retain fuel purchase records that account for all fuel purchased for use in all engines. Fuel purchase records shall include: i. Identification of type of fuel (CARB diesel, alternate diesel etc.) ii. Quantity of fuel purchased. iii. Date of fuel purchase. iv. Signature of person receiving fuel. v. Signature of fuel provider indicating that fuel was delivered.

**V-C. EQUIPMENT
 SPECIFIC
 REQUIREMENTS**

**(14) IC ENGINE, EMERGENCY USE/FIRE PUMP,
 DIESEL FUEL
 (continued)**

FUTURE EFFECTIVE REQUIREMENTS 05-03-2013

The following permit conditions are future effective requirements for -

40 CFR 63 Subpart ZZZZ - National Emissions
 Standards for Hazardous Air Pollutants (NESHAP) for
 Stationary Reciprocating Internal Combustion Engines
 [begin at 40 CFR 63.6580]

**NOTE - CONDITION NOS. 9 - 14 DO NOT BECOME
 EFFECTIVE UNTIL MAY 3, 2013.**

9. The following Maintenance Management Practices (MMP) shall be performed in accordance with the following schedule.
[Basis: 40 CFR 63.6602 and Subpart ZZZZ Table 2C]

Maintenance Activity	Frequency
A. Change oil and filter	At least once every calendar year
B. Inspect air cleaner	At least once every calendar year
C. Inspect all hoses and belts	At least once every calendar year

10. If the IC engine is operating during an emergency and it is not possible to shut down the IC engine in order to perform the MMP on the schedule required in Condition No. 9, or if performing the MMP on the required schedule would otherwise pose an unacceptable risk under federal, state or local law, the specific MMP can be delayed until the emergency is over or the unacceptable risk has abated. The MMP should be performed as soon as practicable after the emergency has ended or the unacceptable risk has abated. Sources must report to the federal administrator any failure to perform the MMP on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[Basis: 40 CFR 63.6602 and Subpart ZZZZ Table 2C Footnote 1]

**V-C. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(14) IC ENGINE, EMERGENCY USE/FIRE PUMP,
DIESEL FUEL
(continued)**

FUTURE EFFECTIVE REQUIREMENTS 05-03-2013

11. As an alternative to Condition No. 9A, the owner/operator has the option to utilize an oil analysis program as described below in order to extend the specified oil and filter change requirement.
- A. The oil analysis must be performed at the same frequency specified for changing the oil as specified above.
 - B. The analysis program must at a minimum analyze the following three parameters: total base number, viscosity, and percent water content.
 - C. The condemning limits for these parameters are as follows: total base number is less than 30 percent of the total base number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5.
 - D. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil.
 - E. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis.
 - F. If the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later.
 - G. The oil analysis program shall be part of the maintenance plan for the engine as specified in Condition No. 17.

[Basis: 40 CFR 63.6625(i)]

**V-C. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(14) IC ENGINE, EMERGENCY USE/FIRE PUMP,
DIESEL FUEL
(continued)**

FUTURE EFFECTIVE REQUIREMENTS 05-03-2013

12. The operator shall minimize the IC engine's time spent at idle during startup and minimize the IC engine's startup time to a period needed for appropriate and safe loading of the IC engine.

[Basis: 40 CFR 63.6625(h)]

13. The IC engine shall be maintained according to the manufacturer's emission-related operation and maintenance instructions or the owner/operator can develop and follow their own maintenance plan in accordance with good air pollution control practices.

[Basis: 40 CFR 63.6625(e)(2)]

14. The following records shall be continuously maintained onsite for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request.

Frequency	Information to be Recorded
When event occurs	<p>A. Occurrence and duration of each malfunction of operation (i.e. process equipment) or the air pollution control and monitoring equipment. [Basis: 40 CFR 63.6655(a)(2)]</p> <p>B. Actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the malfunctioning process to its normal or usual manner of operation. [Basis: 40 CFR 63.6655(a)(5)]</p> <p>C. All maintenance conducted on the IC engine (e.g. change oil and filter, inspect air cleaner and inspect all hoses and belts). [Basis: 40 CFR 63.6655(e)(2)]</p> <p>D. If the oil analysis option is utilized as specified in Condition No. 11., records of the parameters that are analyzed as part of the oil analysis program and the results of the analysis. [Basis: 40 CFR 63.6625(i)]</p>

**V-D. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) IC ENGINE, EMERGENCY USE/ELECTRICAL
GENERATOR, PROPANE FUEL**

- A. EQUIPMENT DESCRIPTION:** The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
10424	84 hp Generac engine, Model No.SG5034150, Serial No. 821288/AGC209099, portable	20015

- B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS:** The requirements specified in this section are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. The IC engine shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.
[Basis: SMAQMD Rule 401]
2. Combustion contaminants from the IC engine shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot of gas corrected to 12% CO₂ at standard conditions.
[Basis: SMAQMD Rule 406]
3. Emissions from the IC engine shall not exceed the following limits:
[Basis: SMAQMD Rule 202]

PO No. 10424				
Pollutant	Emission Factor (A) grams/hp-hr	Maximum Allowable Emissions (B)		
		lb/day	lb/quarter	lb/year
ROC	0.72	3.2	27	27
NOx	12	53.3	444	444
SO ₂	0.002	0.01	0.1	0.1
PM ₁₀	0.152	0.7	6	6
CO	1.6	7.1	59	59

**V-D. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) IC ENGINE, EMERGENCY USE/ELECTRICAL
GENERATOR, PROPANE FUEL
(continued)**

(A) Emission factors for ROC, NO_x, SO₂, PM₁₀ and CO are based on uncontrolled values from U.S. EPA AP42, Table 3.3-1 (10/96).

(B) Emissions are based on 84 bhp, 24 hr/day, 200 hr/quarter, 200 hr/year of operation, and the emission factors in this table.

EQUIPMENT OPERATION

4. The IC engine shall operate only for the following purposes and shall not operate more than the following hours:

[Basis: SMAQMD Rule 202]

Type of Operational Hours	Maximum Allowable Operation		
	hours/day	hours/quarter	hours/year
Maintenance Purposes (A)	1 (B)	100	100
Maintenance Purposes Plus Actual Interruption of Power by the Serving Utility (C)	NA	200	200

(A) Maintenance purposes is defined as: the operation of an IC engine in order to preserve the integrity of the IC engine and its associated generator or the facility's electrical distribution system.

(B) Limited to a maximum of one (1) hour per day only if the forecasted Air Quality Index (AQI) for Sacramento County is greater than 75, in order to minimize adverse air quality impact. This requirement shall not apply to scheduled maintenance of the facility's electrical distribution system. The forecasted AQI level for Sacramento County can be obtained a day in advance by calling the SMAQMD between 3:15 pm and 5:00 pm, or by checking www.sparetheair.com.

(C) Actual interruption of power is defined as: when electrical service from the serving utility is interrupted by an unforeseeable event or when the power reserves of the serving utility fall below 5%.

5. The IC engine shall be fueled only by propane fuel.

[Basis: SMAQMD Rules 201 and 202]

6. The IC engine shall be equipped with a non-resetting hour meter to ensure compliance with Condition Nos. 3 and No. 4.

[Basis: SMAQMD Rules 201 and 202]

7. Upon request of the SMAQMD Air Pollution Control Officer, once each year, during daylight hours, the IC engine shall be run at maximum anticipated load, from a cold start condition, for observation of compliance with opacity limitations.

**V-D. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) IC ENGINE, EMERGENCY USE/ELECTRICAL
GENERATOR, PROPANE FUEL
(continued)**

[Basis: SMAQMD Rules 201 and 202]

RECORD KEEPING AND REPORTING REQUIREMENTS

8. The following record shall be continuously maintained onsite for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly and yearly records shall be made available within 30 days following the end of the quarter and year respectively.

[Basis: SMAQMD Rules 201 and 202]

Frequency	Information to be recorded for the IC engine
When operated	A. Date. B. Purpose - either maintenance or emergency power. C. Number of hours of operation.
When operated for more than one hour per day for maintenance purposes	D. When operating for maintenance purposes in excess of one (1) hour per day, the daily record shall also include: i. The forecasted AQI for Sacramento County; or ii Description of the electrical distribution system maintenance performed. Electrical distribution system does not include the IC engine or its associated generator.
Quarterly	E. Total number of hours of operation of the IC engine for maintenance purposes. (hours/quarter) F. Total number of hours of operation of the IC engine for all purposes. (hours/quarter)
Yearly	G. Total number of hours of operation of the IC engine for maintenance purposes. (hours/year) H. Total number of hours of operation of the IC engine for all purposes. (hours/year)

**V-D. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) IC ENGINE, EMERGENCY USE/ELECTRICAL
GENERATOR, PROPANE FUEL
(continued)**

FUTURE EFFECTIVE REQUIREMENTS 10-19-2013

The following permit conditions are future effective requirements for -

40 CFR 63 Subpart ZZZZ - National Emissions
Standards for Hazardous Air Pollutants (NESHAP) for
Stationary Reciprocating Internal Combustion Engines
[begin at 40 CFR 63.6580]

**NOTE - CONDITION NOS. 9 - 14 DO NOT BECOME
EFFECTIVE UNTIL OCTOBER 19, 2013.**

9. The following Maintenance Management Practices (MMP) shall be performed in accordance with the following schedule.
[Basis: 40 CFR 63.6602 and Subpart ZZZZ Table 2C]

Maintenance Activity	Frequency
A. Change oil and filter	At least once every calendar year
B. Inspect spark plugs	At least once every calendar year
C. Inspect all hoses and belts	At least once every calendar year

10. If the IC engine is operating during an emergency and it is not possible to shut down the IC engine in order to perform the MMP on the schedule required in Condition No. 9, or if performing the MMP on the required schedule would otherwise pose an unacceptable risk under federal, state or local law, the specific MMP can be delayed until the emergency is over or the unacceptable risk has abated. The MMP should be performed as soon as practicable after the emergency has ended or the unacceptable risk has abated. Sources must report to the federal administrator any failure to perform the MMP on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[Basis: 40 CFR 63.6602 and Subpart ZZZZ Table 2C Footnote 1]

**V-D. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) IC ENGINE, EMERGENCY USE/ELECTRICAL
GENERATOR, PROPANE FUEL
(continued)**

FUTURE EFFECTIVE REQUIREMENTS 10-19-2013

11. As an alternative to Condition No. 9A, the owner/operator has the option to utilize an oil analysis program as described below in order to extend the specified oil and filter change requirement.
- A. The oil analysis must be performed at the same frequency specified for changing the oil as specified above.
 - B. The analysis program must at a minimum analyze the following three parameters: total acid number, viscosity, and percent water content.
 - C. The condemning limits for these parameters are as follows: total acid number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from the total acid number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5.
 - D. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil.
 - E. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis.
 - F. If the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later.
 - G. The oil analysis program shall be part of the maintenance plan for the engine as specified in Condition No. 17.

[Basis: 40 CFR 63.6625(j)]

**V-D. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) IC ENGINE, EMERGENCY USE/ELECTRICAL
GENERATOR, PROPANE FUEL
(continued)**

FUTURE EFFECTIVE REQUIREMENTS 10-19-2013

12. The operator shall minimize the IC engine's time spent at idle during startup and minimize the IC engine's startup time to a period needed for appropriate and safe loading of the IC engine.

[Basis: 40 CFR 63.6625(h)]

13. The IC engine shall be maintained according to the manufacturer's emission-related operation and maintenance instructions or the owner/operator can develop and follow their own maintenance plan in accordance with good air pollution control practices.

[Basis: 40 CFR 63.6625(e)(2)]

14. The following records shall be continuously maintained onsite for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request.

Frequency	Information to be Recorded
When event occurs	<p>A. Occurrence and duration of each malfunction of operation (i.e. process equipment) or the air pollution control and monitoring equipment. [Basis: 40 CFR 63.6655(a)(2)]</p> <p>B. Actions taken during periods of malfunction to minimize emissions, including corrective actions to restore the malfunctioning process to its normal or usual manner of operation. [Basis: 40 CFR 63.6655(a)(5)]</p> <p>C. All maintenance conducted on the IC engine (e.g. change oil and filter, inspect air cleaner and inspect all hoses and belts). [Basis: 40 CFR 63.6655(e)(2)]</p> <p>D. If the oil analysis option is utilized as specified in Condition No. 11., records of the parameters that are analyzed as part of the oil analysis program and the results of the analysis. [Basis: 40 CFR 63.6625(j)]</p>

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

(39) BOILER, SMALL, < 5 MMBTU/HR

A. EQUIPMENT DESCRIPTION: The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Boiler Description	Location/ Building	Use	Fuel Source/ Fuel
12918	Kewanee Model No. L3S-70-G Serial No. 867701 Rating 3.03 MMBTU/hr	20004	Steam	M03 Meter No. M13 Natural Gas
14603	Hearst Model No. 5622 Serial No. S500-160-1 Rating 4.25 MMBTU/hr	20019A	Steam	M03 Meter No. 32706806 Natural Gas
19729	ABCO Model No. 30C Serial No. 8706 Rating 1.26 MMBTU/hr	00006	Steam	M05 Meter No. 30904390 Natural Gas
19731	Cleaver Brooks Model No. M4W-2000 Serial No. G13445-M4 Rating 2.1 MMBTU/hr	Various Locations (Portable Backup)	Steam	Varies Propane or Natural Gas
19732	ABCO Model No. 60C Serial No. 8714 Rating 2.52 MMBTU/hr	Various Locations (Portable Backup)	Steam	Varies Propane or Natural Gas
19733	Ray Husky Model No. WR3-70 Serial No. B7936 Rating 2.94 MMBTU/hr	01023	Steam	M09 Meter No. 29797889 Natural Gas or Propane
19735	Ray Husky Model No. WR3-40 Serial No. B5581 Rating 1.6 MMBTU/hr	01034	Steam	M07 Meter No. 30921462 Natural Gas or Propane
19737	Ray Husky Model No. NB9056 Serial No. NA Rating 3.36 MMBTU/hr	01062	Steam	M07 Meter No. 30921462 Natural Gas or Propane

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No.	Boiler Description	Location/ Building	Use	Fuel Source/ Fuel
19747	ABCO Model No. 50C Serial No. 8897 Rating 2.1 MMBTU/hr	46038	Steam	T64 Meter No. 92628 Propane
19748	Kewanee Model No. 2775 Serial No. K3595 Rating 1.26 MMBTU/hr	49011	Steam	M01 Meter No. 30706115 Natural Gas
19749	Kewanee Co. Model No. 2775 Serial No. K7122 Rating 1.26 MMBTU/hr	49011	Steam	M01 Meter No. 30706115 Natural Gas
19750	ABCO Model No. 40C Serial No. 8867 Rating 1.47 MMBTU/hr	04056	Steam	T19 Meter No. 276336 Propane
19752	ABCO Model No. 30C Serial No. 8713 Rating 1.3 MMBTU/hr	20004	Hot Water	M03 Meter No. 32706806 Natural Gas
20313	Ray Husky Model No. WR3-40 Serial No. B5542 Rating 1.7 MMBTU/hr	00010	Steam	M14 - Currently not connected Natural Gas
20384	Husky/Ray Model No. WR3-90 Serial No. B5309 Rating 3.45 MMBTU/hr	05080	Steam	Natural Gas or Propane
20438	Cleaver Brooks Model No. CBH 101-100 Serial No. L44455 Rating 4.2 MMBTU/hr	01023	Steam	M09 Meter No. 29797889 Natural Gas or Propane
20439	Superior Model No. 9053 Serial No. NA Rating 2.5 MMBTU/hr	01028	Steam	M08 Meter No. 29798230 Natural Gas or Propane

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No.	Boiler Description	Location/ Building	Use	Fuel Source/ Fuel
20440	Ray Husky Model No. WR3-40 Serial No. 15499 Rating 1.68 MMBTU/hr	01050	Steam	M08 Meter No. 29798230 Natural Gas or Propane
20441	Ray Husky Model No. WR3-50 Serial No. 15546 Rating 2.1 MMBTU/hr	01058	Steam	M07 Meter No. 30921462 Natural Gas or Propane
20443	Cleaver Brooks Model No. CB189-100 Serial No. L41586 Rating 4.2 MMBTU/hr	20015B	Hot Water	M02 Meter No. 29295068 Natural Gas
20600	Ray Husky Model No. WR3-100 Serial No. B5495-4052 Rating 4.2 MMBTU/hr	01062	Steam	M07 Meter No. 30921462 Natural Gas or Propane
20869	Cleaver Brooks Model No. CBH 101-100 Serial No. L44454 Rating 4.2 MMBTU/hr	01023	Steam	M09 Meter No. 29797889 Natural Gas or Propane
20870	Ray Husky Model No. WR3-50 Serial No. 15545 Rating 2.1 MMBTU/hr	01058	Steam	M07 Meter No. 30921462 Natural Gas or Propane
20872	Ray Husky Model No. WR3-60 Serial No. 15244 Rating 2.5 MMBTU/hr	01028	Steam	M08 Meter No. 29798230 Natural Gas or Propane
20873	Ray Husky Model No. WR3-100 Serial No. B50765 Rating 4.2 MMBTU/hr	01066	Steam	M07 Meter No. 30921462 Natural Gas or Propane
21000	Cleaver Brooks Model No. CB189X-80 Serial No. L29651 Rating 3.36 MMBTU/hr	20025A	Hot Water	M02 Meter No. 29295068 Natural Gas

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No.	Boiler Description	Location/ Building	Use	Fuel Source/ Fuel
21080	Ray Husky Model No. WR3-70 Serial No. B7936 Rating 2.94 MMBTU/hr	01034	Steam	M07 Meter No. 30921462 Natural Gas or Propane
21081	Johnston Co. Model No. 213-BCP Serial No. S3262 Rating 1.68 MMBTU/hr	01056	Steam	M07 Meter No. 30921462 Natural Gas or Propane
21082	Kewanee Model No. FB194W-A522 Serial No. 648490 Rating 2.1 MMBTU/hr	20002	Hot Water	M03 Meter No. 32706806 Natural Gas
21083	Kewanee Model No. M-235-KX Serial No. 65581 Rating 2.9 MMBTU/hr	20001	Steam	M03 Meter No. 32706806 Natural Gas
21084	Superior Model No. 4-5-304 Serial No. 8667 Rating 2.5 MMBTU/hr	20019	Hot Water	M03 Meter No. 32706806 Natural Gas
21141	ABCO Ind. Model No. 150AFDG-150 Serial No. 8963 Rating 4.85 MMBTU/hr	20002	Steam	M03 Meter No. 32706806 Natural Gas
21142	ABCO Ind. Model No. 150AFDG-150 Serial No. 8965 Rating 4.8 MMBTU/hr	20002	Steam	M03 Meter No. 32706806 Natural Gas
21143	ABCO Ind. Model No. 150AFDG-150 Serial No. 8964 Rating 4.3 MMBTU/hr	20004	Steam	M03 Meter No. 32706806 Natural Gas
21144	Superior Model No. MS5625 Serial No. 8812 Rating 4.3 MMBTU/hr	5080	Steam	Natural Gas or Propane

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No.	Boiler Description	Location/ Building	Use	Fuel Source/ Fuel
21145	Husky/Ray Model No. WR3-150 Serial No. B5173-3548 Rating 4.9 MMBTU/hr	01086	Steam	M08 Meter No. 29798230 Natural Gas or Propane
21146	Husky/Ray Model No. WR3-125 Serial No. B5308 Rating 4.5 MMBTU/hr	01096	Steam	M08 Meter No. 29798230 Natural Gas or Propane
21147	Hurst Model No. S625-150-16 Serial No. NA Rating 4.2 MMBTU/hr	Various Locations (Portable Backup)	Steam	Varies Propane or Natural Gas
21203	Hurst Model No. FM-200-D-12 Serial No. S1000-15-11 Rating 4.9 MMBTU/hr	20004	Steam	Natural Gas

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified in this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMITS:

1. Each boiler shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.
[Basis: SMAQMD Rule 401]
2. Combustion contaminants from each boiler shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot of gas corrected to 12% CO₂ at standard conditions.
[Basis: SMAQMD Rule 406]

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

3. The specified boiler shall not emit more than the following:
[Basis: SMAQMD Rule 411]

PO No.	Maximum Allowable Emission Concentration	
	Averaged over a period of 15 consecutive minutes and corrected to 3% O ₂	
	NO _x	CO
12918	30 ppmvd	400 ppmvd
14603		
20313		
20384		
21141		
21142		
21143		
21144		
21145		
21146		
21147		
21203		

4. The specified boiler shall not emit more than the following:
[Basis: SMAQMD Rule 411]

PO No.	Maximum Allowable Emission Concentration	
	Averaged over a period of 15 consecutive minutes and corrected to 3% O ₂	
	NO _x	CO
20438	30 ppmvd	114 ppmvd
20439		
20440		
20441		

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No.	Maximum Allowable Emission Concentration	
	Averaged over a period of 15 consecutive minutes and corrected to 3% O ₂	
	NO _x	CO
20443	30 ppmvd	114 ppmvd
20869		
20870		
20872		
20873		
21082		
21083		

5. Emissions from the specified boiler shall not exceed the following limits.
[Basis: SMAQMD Rules 202 and 411]

PO No. 12918		
Pollutant	Emission Factor (A) lb/MMcf	Maximum Allowable Emissions (B) lb/quarter
ROC	5.3	18
NO _x	37	120
SO ₂	0.6	2
PM ₁₀	12	25
CO	291	977

- (A) Emission factors for NO_x and CO are based on 30 and 400 ppm at 3% O₂, respectively. ROC, SO₂ and PM₁₀ from U.S. EPA AP42, Table 1.4-1,2 (7/98).
(B) Based on 3.3 MMcf/quarter

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No. 14603		
Pollutant	Emission Factor (A) lb/MMcf	Maximum Allowable Emissions (B) lb/quarter
ROC	5.28	52
NOx	36.4	342
SO2	0.6	6
PM10	12	71
CO	296	2778

(A) Emission factors for NOx and CO are based on 30 and 400 ppm at 3% O2, respectively. ROC, SO2 and PM10 from U.S. EPA AP42, Table 1.4-2 (7/98).

(B) Based on 1000 BTU/cf, 4.25 MMBTU/hr, 24 hours/day and 92 days/quarter

PO No. 19729			
Pollutant	Emission Factor (A) lb/MMBTU	Maximum Allowable Emissions (B)	
		lb/quarter	lb/year
ROC	0.0055	15	22
NOx	0.1	278	400
SO2	0.0006	2	2
PM10	0.0076	21	30
CO	0.084	234	336

(A) Emission factors from U.S. EPA AP42, Table 1.4-1.2 (7/98).

(B) Based on maximum capacity of 1.26 MMBTU/hr of natural gas, 24 hours/day, 27,821 therms/quarter and 40,000 therms/year.

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No. 19731				
Pollutant	Emission Factor (lb/MMBTU)		Maximum Allowable Emissions (C)	
	Nat. Gas (A)	Propane (B)	lb/quarter	lb/year
ROC	0.0055	0.005462	22	22
NOx	0.1	0.152927	612	612
SO2	0.0006	0.000218	2	2
PM10	0.0076	0.004369	30	30
CO	0.084	0.020754	336	336

(A) Units are lb/MMcf of gas. Emission factors from U.S. EPA AP42, Tables 1.4-1.2 (7/98).

(B) Units are lb/Mgal. Emission factors from U.S. EPA AP42, Table 1.5-1 (10/96).

(C) Based on highest emission factor and a fuel usage of 2.1 MMBTU/hr, 24 hours/day, 40,000 therms/quarter and 40,000 therms/year.

PO No. 19732				
Pollutant	Emission Factor (lb/MMBTU)		Maximum Allowable Emissions (C)	
	Nat. Gas (A)	Propane (B)	lb/quarter	lb/year
ROC	0.0055	0.005462	31	39
NOx	0.1	0.152927	851	1070
SO2	0.0006	0.000218	3	4
PM10	0.0076	0.004369	42	53
CO	0.084	0.020754	467	589

(A) Units are lb/MMcf of gas. Emission factors from U.S. EPA AP42, Tables 1.4-1.2 (7/98).

(B) Units are lb/Mgal. Emission factors from U.S. EPA AP42, Table 1.5-1 (10/96).

(C) Based on highest emission factor and a fuel usage of 2.52 MMBTU/hr, 24 hours/day, 55,642 therms/quarter and 70,000 therms/year.

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No. 19733				
Pollutant	Emission Factor (lb/MMBTU)		Maximum Allowable Emissions (C)	
	Natural Gas (A)	Propane (B)	lb/quarter	lb/year
ROC	0.0055	0.005462	36	39
NOx	0.1	0.152927	992	1070
SO2	0.0006	0.000218	4	4
PM10	0.0076	0.004369	49	53
CO	0.084	0.020754	545	588

(A) Units are lb/MMcf of gas. Emission factors from U.S. EPA AP42, Tables 1.4-1.2 (7/98).

(B) Units are lb/Mgal. Emission factors from U.S. EPA AP42, Table 1.5-1 (10/96).

(C) Based on highest emission factor and a fuel usage of 2.94 MMBTU/hr, 24 hours/day, 64,915 therms/quarter and 70,000 therms/year.

PO No. 19735				
Pollutant	Emission Factor (lb/MMBTU)		Maximum Allowable Emissions (C)	
	Natural Gas (A)	Propane (B)	lb/quarter	lb/year
ROC	0.0055	0.005462	19	22
NOx	0.1	0.152927	540	612
SO2	0.0006	0.000218	2	2
PM10	0.0076	0.004369	27	30
CO	0.084	0.020754	297	336

(A) Units are lb/MMcf of gas. Emission factors from U.S. EPA AP42, Tables 1.4-1.2 (7/98).

(B) Units are lb/Mgal. Emission factors from U.S. EPA AP42, Table 1.5-1 (10/96).

(C) Based on highest emission factor and a fuel usage of 1.60 MMBTU/hr, 24 hours/day, 35,328 therms/quarter and 40,000 therms/year.

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No. 19737				
Pollutant	Emission Factor (lb/MMBTU)		Maximum Allowable Emissions (C)	
	Natural Gas (A)	Propane (B)	lb/quarter	lb/year
ROC	0.0055	0.005462	39	39
NOx	0.1	0.152927	1070	1070
SO2	0.0006	0.000218	4	4
PM10	0.0076	0.004369	53	53
CO	0.084	0.020754	588	588

(A) Units are lb/MMcf of gas. Emission factors from U.S. EPA AP42, Tables 1.4-1.2 (7/98).

(B) Units are lb/Mgal. Emission factors from U.S. EPA AP42, Table 1.5-1 (10/96).

(C) Based on highest emission factor and a fuel usage of 2.94 MMBTU/hr, 24 hours/day, 70,000 therms/quarter and 70,000 therms/year.

PO No. 19747			
Pollutant	Emission Factor (A) lb/MMBTU	Maximum Allowable Emissions (B)	
		lb/quarter	lb/year
ROC	0.005462	7	22
NOx	0.152927	188	612
SO2	0.000218	0.5	1
PM10	0.004369	5	17
CO	0.020754	25	83

(A) Emission factors from U.S. EPA AP42, Table 1.5-1 (10/96).

(B) Based on maximum capacity of 2.10 MMBTU/hr of propane, 24 hours/day, 12,267 therms/quarter and 40,000 therms/year.

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No. 19748			
Pollutant	Emission Factor (A) lb/MMBTU	Maximum Allowable Emissions (B)	
		lb/quarter	lb/year
ROC	0.0055	15	22
NOx	0.1	278	400
SO2	0.0006	2	2
PM10	0.0076	21	30
CO	0.084	234	336

(A) Emission factors from U.S. EPA AP42, Table 1.4-1.2 (7/98).

(B) Based on maximum capacity of 1.26 MMBTU/hr of natural gas, 24 hours/day, 27,821 therms/quarter and 40,000 therms/year.

PO No. 19749			
Pollutant	Emission Factor (A) lb/MMBTU	Maximum Allowable Emissions (B)	
		lb/quarter	lb/year
ROC	0.0055	15	22
NOx	0.1	278	400
SO2	0.0006	2	2
PM10	0.0076	21	30
CO	0.084	234	336

(A) Emission factors from U.S. EPA AP42, Table 1.4-1.2 (7/98).

(B) Based on maximum capacity of 1.26 MMBTU/hr of natural gas, 24 hours/day, 27,821 therms/quarter and 40,000 therms/year.

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No. 19750			
Pollutant	Emission Factor (A) lb/MMBTU	Maximum Allowable Emissions (B)	
		lb/quarter	lb/year
ROC	0.005462	12	22
NOx	0.152927	336	612
SO2	0.000218	0.5	1
PM10	0.004369	10	17
CO	0.020754	46	83

(A) Emission factors from U.S. EPA AP42, Table 1.5-1 (10/96).

(B) Based on maximum capacity of 1.47 MMBTU/hr of propane, 24 hours/day, 21,971 therms/quarter and 40,000 therms/year.

PO No. 19752			
Pollutant	Emission Factor (A) lb/MMBTU	Maximum Allowable Emissions (B)	
		lb/quarter	lb/year
ROC	0.0055	16	22
NOx	0.1	287	400
SO2	0.0006	2	2
PM10	0.0076	22	30
CO	0.084	241	336

(A) Emission factors from U.S. EPA AP42, Table 1.4-1.2 (7/98).

(B) Based on maximum capacity of 1.30 MMBTU/hr of natural gas, 24 hours/day, 28,704 therms/quarter and 40,000 therms/year.

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No. 20313			
Pollutant	Emission Factor (A) lb/MMBTU	Maximum Allowable Emissions (B)	
		lb/quarter	lb/year
ROC	0.0055	14	14
NOx	0.0364	91	91
SO2	0.0006	2	2
PM10	0.0076	19	19
CO	0.084	210	210

(A) Emission factors for ROC, SO2, PM10 and CO are from U.S. EPA AP42, Table 1.4-1.2 (7/98). Emission factor for NOx is based on 30 ppmvd at 3% O2, as proposed by the applicant and manufacturer.

(B) Based on maximum capacity of 1.7 MMBTU/hr of natural gas, 24 hours/day, 25,000 therms/quarter and 25,000 therms/year.

PO No. 20384			
Pollutant	Emission Factor		Maximum Allowable Emissions (C)
	Natural Gas (A)	Propane (B)	lb/quarter
ROC	5.5	0.5	12
NOx	36.4	3.295	82
SO2	0.6	0.02	1
PM10	7.6	0.4	17
CO	295	26.7	664

(A) Units are lb/MMcf of gas. Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factors for NOx and CO are based on a concentration of 30 ppm and 400 ppm at 3% O2, respectively. The emission factors are converted from volume to energy basis.

(B) Units are lb/Mgal of propane. Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Table 1.5-1 (10/96). Emission factors for NOx and CO are based on a concentration of 30 ppm and 400 ppm at 3% O2, respectively. The emission factors are converted from volume to energy basis.

(C) Based on highest emission factor and a fuel usage of 3.45 MMBTU/hr, 24 hours/day, 22,500 therms/quarter.

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No. 20438			
Pollutant	Emission Factor		Maximum Allowable Emissions (C)
	Natural Gas (A)	Propane (B)	lb/quarter
ROC	5.5	0.5	51
NOx	36.4	3.295	338
SO2	0.6	0.02	6
PM10	7.6	0.4	70
CO	84	1.9	779

- (A) Units are lb/MMcf of gas. Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factors for NOx and CO are based on a concentration of 30 ppm and 114 ppm at 3% O2, respectively. The emission factors are converted from volume to energy basis
- (B) Units are lb/Mgal of propane. Emission factors for ROC, SO2, CO, and PM10 are from U.S. EPA AP42, Table 1.5-1 (10/96). Emission factor for NOx is based on a concentration of 30 ppm at 3% O2. The emission factors are converted from volume to energy basis.
- (C) Based on highest emission factor and a fuel usage of 4.2 MMBTU/hr, 24 hours/day, and 92 days per quarter.

PO No. 20439			
Pollutant	Emission Factor		Maximum Allowable Emissions (C)
	Natural Gas (A)	Propane (B)	lb/quarter
ROC	5.5	0.5	30
NOx	36.4	3.295	201
SO2	0.6	0.02	3
PM10	7.6	0.4	42
CO	84	1.9	464

- (A) Units are lb/MMcf of gas. Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factors for NOx and CO are based on a concentration of 30 ppm and 114 ppm at 3% O2, respectively. The emission factors are converted from volume to energy basis
- (B) Units are lb/Mgal of propane. Emission factors for ROC, SO2, CO, and PM10 are from U.S. EPA AP42, Table 1.5-1 (10/96). Emission factor for NOx is based on a concentration of 30 ppm at 3% O2. The emission factors are converted from volume

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

- to energy basis.
(C) Based on highest emission factor and a fuel usage of 2.5 MMBTU/hr, 24 hours/day, and 92 days per quarter.

PO No. 20440			
Pollutant	Emission Factor		Maximum Allowable Emissions (C)
	Natural Gas (A)	Propane (B)	lb/quarter
ROC	5.5	0.5	21
NOx	36.4	3.295	137
SO2	0.6	0.02	2
PM10	7.6	0.4	29
CO	84	1.9	315

- (A) Units are lb/MMcf of gas. Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factors for NOx and CO are based on a concentration of 30 ppm and 114 ppm at 3% O2, respectively. The emission factors are converted from volume to energy basis
(B) Units are lb/Mgal of propane. Emission factors for ROC, SO2, CO, and PM10 are from U.S. EPA AP42, Table 1.5-1 (10/96). Emission factor for NOx is based on a concentration of 30 ppm at 3% O2. The emission factors are converted from volume to energy basis.
(C) Based on highest emission factor and a fuel usage of 1.7 MMBTU/hr, 24 hours/day, and 92 days per quarter.

PO No. 20441			
Pollutant	Emission Factor		Maximum Allowable Emissions (C)
	Natural Gas (A)	Propane (B)	lb/quarter
ROC	5.5	0.5	26
NOx	36.4	3.295	169
SO2	0.6	0.02	3
PM10	7.6	0.4	35
CO	84	1.9	389

- (A) Units are lb/MMcf of gas. Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factors for NOx and CO are based on a concentration of 30 ppm and 114 ppm at 3% O2, respectively. The

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**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

emission factors are converted from volume to energy basis.

(B) Units are lb/Mgal of propane. Emission factors for ROC, SO₂, CO, and PM₁₀ are from U.S. EPA AP42, Table 1.5-1 (10/96). Emission factor for NO_x is based on a concentration of 30 ppm at 3% O₂. The emission factors are converted from volume to energy basis.

(C) Based on highest emission factor and a fuel usage of 2.1 MMBTU/hr, 24 hours/day, and 92 days per quarter.

PO No. 20443		
Pollutant	Emission Factor (A) lb/10 ⁶ ft ³ of gas	Maximum Allowable Emissions (B) (lb/quarter)
ROC	5.5	51
NO _x	36.4	338
SO ₂	0.6	6
PM ₁₀	7.6	70
CO	84	779

(A) Emission factors for ROC, SO₂ and PM₁₀ are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factors for NO_x and CO are based on a concentration of 30 ppm and 114 ppm at 3% O₂, respectively. The emission factors are converted from volume to energy basis

(B) Based on a fuel usage of 4.2 MMBTU/hr, 24 hours/day, and 92 days per quarter.

PO No. 20600				
Pollutant	Emission Factor (lb/MMBTU)		Maximum Allowable Emissions (C)	
	Natural Gas (A)	Propane (B)	lb/quarter	lb/year
ROC	0.0055	0.005462	39	39
NO _x	0.1	0.152927	1070	1070
SO ₂	0.0006	0.000218	4	4
PM ₁₀	0.0076	0.004369	53	53
CO	0.084	0.020754	588	588

(A) Units are lb/MMcf of gas. Based on emission factors from U.S. EPA AP42, Tables 1.4-1.2 (7/98).

(B) Units are lb/Mgal. Emission factors from U.S. EPA AP42, Table 1.5-1 (10/96).

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**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

(C) Based on highest emission factor and a fuel usage of 4.2 MMBTU/hr, 24 hours/day, 70,000 therms/quarter and 70,000 therms/year.

PO No. 20869			
Pollutant	Emission Factor		Maximum Allowable Emissions (C)
	Natural Gas (A)	Propane (B)	lb/quarter
ROC	5.5	0.5	51
NOx	36.4	3.295	338
SO2	0.6	0.02	6
PM10	7.6	0.4	70
CO	84	1.9	779

(A) Units are lb/MMcf of gas. Emission factors for ROC, SO2, CO and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factor for NOx is based on a concentration of 30 ppm at 3% O2. The emission factors are converted from volume to energy basis

(B) Units are lb/Mgal of propane. Emission factors for ROC, SO2, CO, and PM10 are from U.S. EPA AP42, Table 1.5-1 (10/96). Emission factor for NOx is based on a concentration of 30 ppm at to 3% O2. The emission factors are converted from volume to energy basis.

(C) Based on highest emission factor and a fuel usage of 4.2 MMBTU/hr, 24 hours/day, and 92 days per quarter.

PO No. 20870			
Pollutant	Emission Factor		Maximum Allowable Emissions (C)
	Natural Gas (A)	Propane (B)	lb/quarter
ROC	5.5	0.5	26
NOx	36.4	3.295	169
SO2	0.6	0.02	3
PM10	7.6	0.4	35
CO	84	1.9	386

(A) Units are lb/MMcf of gas. Emission factors for ROC, SO2, CO and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factor for NOx is based on a concentration of 30 ppm at 3% O2. The emission factors are converted from

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**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

- volume to energy basis
- (B) Units are lb/Mgal of propane. Emission factors for ROC, SO₂, CO, and PM₁₀ are from U.S. EPA AP42, Table 1.5-1 (10/96). Emission factor for NO_x is based on a concentration of 30 ppm at to 3% O₂. The emission factors are converted from volume to energy basis.
- (C) Based on highest emission factor and a fuel usage of 2.1 MMBTU/hr, 24 hours/day, and 92 days per quarter.

PO No. 20872			
Pollutant	Emission Factor		Maximum Allowable Emissions (C)
	Natural Gas (A)	Propane (B)	lb/quarter
ROC	5.5	0.5	30
NO _x	36.4	3.295	201
SO ₂	0.6	0.02	3
PM ₁₀	7.6	0.4	42
CO	84	1.9	464

- (A) Units are lb/MMcf of gas. Emission factors for ROC, SO₂, CO and PM₁₀ are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factor for NO_x is based on a concentration of 30 ppm at 3% O₂. The emission factors are converted from volume to energy basis
- (B) Units are lb/Mgal of propane. Emission factors for ROC, SO₂, CO, and PM₁₀ are from U.S. EPA AP42, Table 1.5-1 (10/96). Emission factor for NO_x is based on a concentration of 30 ppm at to 3% O₂. The emission factors are converted from volume to energy basis.
- (C) Based on highest emission factor and a fuel usage of 2.5 MMBTU/hr, 24 hours/day, and 92 days per quarter.

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**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No. 20873			
Pollutant	Emission Factor		Maximum Allowable Emissions (C)
	Natural Gas (A)	Propane (B)	lb/quarter
ROC	5.5	0.5	51
NOx	36.4	3.295	336
SO2	0.6	0.02	6
PM10	7.6	0.4	70
CO	84	1.9	779

- (A) Units are lb/MMcf of gas. Emission factors for ROC, SO2, CO and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factor for NOx is based on a concentration of 30 ppm at 3% O2. The emission factors are converted from volume to energy basis
- (B) Units are lb/Mgal of propane. Emission factors for ROC, SO2, CO, and PM10 are from U.S. EPA AP42, Table 1.5-1 (10/96). Emission factor for NOx is based on a concentration of 30 ppm at to 3% O2. The emission factors are converted from volume to energy basis.
- (C) Based on highest emission factor and a fuel usage of 4.2 MMBTU/hr, 24 hours/day, and 92 days per quarter.

PO No. 21000			
Pollutant	Emission Factor (A) lb/MMBTU	Maximum Allowable Emissions (B)	
		lb/quarter	lb/year
ROC	0.0055	39	39
NOx	0.1	700	700
SO2	0.0006	4	4
PM10	0.0076	53	53
CO	0.084	588	588

- (A) Emission factors for ROC, SO2, PM10 and CO are from U.S. EPA AP42, Table 1.4-1.2 (7/98).
- (B) Based on maximum capacity of 3.36 MMBTU/hr of natural gas, 24 hours/day, 70,000 therms/quarter and 70,000 therms/year.

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**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No. 21080			
Pollutant	Emission Factor (A) lb/MMBTU	Maximum Allowable Emissions (B)	
		lb/quarter	lb/year
ROC	0.0055	36	39
NOx	0.1	993	1070
SO2	0.0006	4	4
PM10	0.0076	49	53
CO	0.084	545	588

(A) Emission factors for ROC, SO2, PM10 and CO are from U.S. EPA AP42, Table 1.4-1.2 (7/98).

(B) Based on maximum capacity of 2.94 MMBTU/hr of natural gas, 24 hours/day, 70,000 therms/quarter and 70,000 therms/year.

PO No. 21081				
Pollutant	Emission Factor lb/MMBTU		Maximum Allowable Emissions (C)	
	Natural Gas (A)	Propane (B)	lb/quarter	lb/year
ROC	0.0055	0.005462	20	22
NOx	0.1	0.152927	567	612
SO2	0.0006	0.000218	2	2
PM10	0.0076	0.004369	28	30
CO	0.084	0.020754	312	336

(A) Based on emission factors from U.S. EPA AP42, Tables 1.4-1.2 (7/98).

(B) Emission factors from U.S. EPA AP42, Table 1.5-1 (10/96).

(C) Based on highest emission factor and a fuel usage of 1.68 MMBTU/hr, 24 hours/day, 37,094 therms/quarter and 40,000 therms/year.

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**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No. 21082		
Pollutant	Emission Factor (A) lb/MMcf of gas	Maximum Allowable Emissions (B) lb/quarter
ROC	5.5	26
NOx	36.4	169
SO2	0.6	3
PM10	7.6	35
CO	84	389

(A) Emission factors for ROC, SO2, CO and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factor for NOx is based on a concentration of 30 ppm at 3% O2.

(B) Based on 2.1 MMBTU/hr, 24 hours/day, and 92 days per quarter.

PO No. 21083		
Pollutant	Emission Factor (A) lb/MMcf of gas	Maximum Allowable Emissions (B) lb/quarter
ROC	5.5	25
NOx	36.4	233
SO2	0.6	4
PM10	7.6	49
CO	84	538

(A) Emission factors for ROC, SO2, CO and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factor for NOx is based on a concentration of 30 ppm at 3% O2.

(B) Based on 2.9 MMBTU/hr, 24 hours/day, and 92 days per quarter.

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**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No. 21084			
Pollutant	Emission Factor (A) lb/MMBTU	Maximum Allowable Emissions (B)	
		lb/quarter	lb/year
ROC	0.0055	30	39
NOx	0.1	552	700
SO2	0.0006	3	4
PM10	0.0076	42	53
CO	0.084	464	588

(A) Emission factors are from U.S. EPA AP42, Table 1.4-1.2 (7/98).

(B) Based on maximum capacity of 2.5 MMBTU/hr of natural gas, 24 hours/day, 55,200 therms/quarter and 70,000 therms/year.

PO No. 21141		
Pollutant	Emission Factor (A) lb/MMcf of gas	Maximum Allowable Emissions (B) lb/quarter
ROC	5.5	59
NOx	36.4	390
SO2	0.6	6
PM10	7.6	81
CO	296	3,159

(A) Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factors for NOx and CO are based on a concentration of 30 ppm and 400 ppm at 3% O2, respectively.

(B) Based on 4.85 MMBTU/hr, 24 hours/day, and 92 days per quarter.

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**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No. 21142		
Pollutant	Emission Factor (A) lb/MMcf of gas	Maximum Allowable Emissions (B) lb/quarter
ROC	5.5	58
NOx	36.4	386
SO2	0.6	6
PM10	7.6	81
CO	296	3,127

(A) Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factors for NOx and CO are based on a concentration of 30 ppm and 400 ppm at 3% O2, respectively.

(B) Based on 4.8 MMBTU/hr, 24 hours/day, and 92 days per quarter.

PO No. 21143		
Pollutant	Emission Factor (A) lb/MMcf of gas	Maximum Allowable Emissions (B) lb/quarter
ROC	5.5	52
NOx	36.4	346
SO2	0.6	6
PM10	7.6	72
CO	296	2,801

(A) Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factors for NOx and CO are based on a concentration of 30 ppm and 400 ppm at 3% O2, respectively.

(B) Based on 4.3 MMBTU/hr, 24 hours/day, and 92 days per quarter.

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**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No. 21144			
Pollutant	Emission Factor		Maximum Allowable Emissions (C)
	Natural Gas (A)	Propane (B)	lb/quarter
ROC	5.5	0.8	83
NOx	36.4	3.3	346
SO2	0.6	1.5	156
PM10	7.6	0.7	73
CO	296	26.4	2,801

- (A) Units are lb/MMcf of gas. Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factors for NOx and CO are based on a concentration of 30 ppm and 400 ppm at 3% O2, respectively.
- (B) Units are lb/Mgal of propane (91,500 BTU/gal). Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Table 1.5-1 (7/08). Emission factors for NOx and CO are based on a concentration of 30 ppm and 400 ppm at to 3% O2.
- (C) Based on highest emission factor and a fuel usage of 4.3 MMBTU/hr, 24 hours/day, and 92 days per quarter.

PO No. 21145			
Pollutant	Emission Factor		Maximum Allowable Emissions (C)
	Natural Gas (A)	Propane (B)	lb/quarter
ROC	5.5	0.8	94.6
NOx	36.4	3.3	394
SO2	0.6	1.5	177
PM10	7.6	0.7	83
CO	296	26.4	3,202

- (A) Units are lb/MMcf of gas. Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factors for NOx and CO are based on a concentration of 30 ppm and 400 ppm at 3% O2, respectively.
- (B) Units are lb/Mgal of propane(91,500 BTU/gal). Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Table 1.5-1 (7/08). Emission factors for NOx and CO are based on a concentration of 30 ppm and 400 ppm at to 3% O2.
- (C) Based on highest emission factor and a fuel usage of 4.9 MMBTU/hr, 24 hours/day, and 92 days per quarter.

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**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No. 21146			
Pollutant	Emission Factor		Maximum Allowable Emissions (C)
	Natural Gas (A)	Propane (B)	lb/quarter
ROC	5.5	0.8	87
NOx	36.4	3.3	362
SO2	0.6	1.5	162
PM10	7.6	0.7	76
CO	296	26.4	2,941

- (A) Units are lb/MMcf of gas. Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factors for NOx and CO are based on a concentration of 30 ppm and 400 ppm at 3% O2, respectively.
- (B) Units are lb/Mgal of propane(91,500 BTU/gal). Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Table 1.5-1 (7/08). Emission factors for NOx and CO are based on a concentration of 30 ppm and 400 ppm at to 3% O2.
- (C) Based on highest emission factor and a fuel usage of 4.5 MMBTU/hr, 24 hours/day, and 92 days per quarter.

PO No. 21147				
Pollutant	Emission Factor		Maximum Allowable Emissions (C)	
	Natural Gas (A)	Propane (B)	lb/quarter	lb/year
ROC	0.0055	0.8	81	175
NOx	0.0364	3.3	338	728
SO2	0.0006	1.5	152	328
PM10	0.0076	0.7	71	153
CO	0.295	26.4	2,736	5,900

- (A) Units are lb/MMBTU. Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factors for NOx and CO are based on a concentration of 30 ppm and 400 ppm at 3% O2, respectively.
- (B) Units are lb/Mgal of propane(91,500 BTU/gal). Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Table 1.5-1 (07/08). Emission factors for NOx and CO are based on a concentration of 30 ppm and 400 ppm at 3% O2, respectively.
- (C) Based on highest emission factor and a fuel usage of 4.2 MMBTU/hr, 24 hours/day, 92 days/qtr, 200,000 therms/year.

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**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No. 21203		
Pollutant	Emission Factor (A) lb/MMcf	Maximum Allowable Emissions (B) lb/quarter
ROC	5.5	60
NOx	36.4	394
SO2	0.6	6
PM10	7.6	82
CO	295	3,192

(A) Emission factors for ROC, SO2 and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (9/98). Emission Factors for NOx and CO are based on 30 and 400 ppm at 3% O2, respectively.

(B) Based on 1000 BTU/cf, 4.9 MMBTU/hr, 24 hours/day and 92 days/quarter

**V-E. EQUIPMENT
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**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

EQUIPMENT DESIGN, OPERATION AND MONITORING REQUIREMENT

7. The combined total fuel consumption through each fuel meter and for each boiler shall not exceed the following limits:
[Basis: SMAQMD Rules 202 and 411]

(NOTE - shading in the PO No. column indicates the small boilers discussed in this section.)

Fuel Source	Meter No.	Equipment Description	PO No.	Energy Limit (Therms)		Fuel Usage Limit by Boiler (cubic feet of natural gas)		Fuel Limit by Meter (cubic feet of natural gas)	
				Quarter	Year	Quarter	Year	Quarter	Year
M01	30706115	Boiler	19748	27,821	40,000	2,107,636 (B)	3,030,303 (B)	NA	NA
		Boiler	19749	27,821	40,000	2,107,636 (B)	3,030,303 (B)		
M02	29295068	Boiler	20443			9,273,600	37,094,400	16,145,990	64,583,960
		Boiler	21000	70,000	70,000	5,109,489 (A)	5,109,489 (A)		
	M02-13660	Gas Heaters	13660	NA	NA	2,659,574	10,638,296	2,659,574	10,638,296

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**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

Fuel Source	Meter No.	Equipment Description	PO No.	Energy Limit (Therms)		Fuel Usage Limit by Boiler (cubic feet of natural gas)		Fuel Limit by Meter (cubic feet of natural gas)	
				Quarter	Year	Quarter	Year	Quarter	Year

M03	M13	Boiler	12918	NA	NA	3,300,000	13,200,000	3,300,000	13,200,000
	32706806	Space Heaters	12127	NA	NA	7,948,800	31,795,200	43,574,720	174,298,880
		Boiler	14603	NA	NA	9,384,000	37,536,000		
		Boiler	19752	28,704	40,000	2,095,182 (A)	2,919,708 (A)		
		Boiler	20313	25,000	25,000	1,824,818	1,824,818		
		Boiler	21082	NA	NA	4,636,800	18,547,200		
		Boiler	21083	NA	NA	6,403,200	25,612,800		
		Boiler	21084	55,200	70,000	4,029,197 (A)	5,109,489 (A)		
		Boiler	21141	NA	NA	10,708,800	42,835,200		
		Boiler	21142	NA	NA	10,598,400	42,393,600		
		Boiler	21143	NA	NA	9,494,400	37,977,600		
		Boiler	21203	NA	NA	10,819,200	43,276,800	10,819,200	43,276,800

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REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

Fuel Source	Meter No.	Equipment Description	PO No.	Energy Limit (Therms)		Fuel Usage Limit by Boiler (cubic feet of natural gas)		Fuel Limit by Meter (cubic feet of natural gas)	
				Quarter	Year	Quarter	Year	Quarter	Year

M05	30904390	Boiler	19729	27,821	40,000	2,030,715 (A)	2,919,708 (A)	2,030,715	2,919,708
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M06	NA	Boiler	20384	22,500	90,000	2,250,000	9,000,000	2,250,000	9,000,000
		Boiler	21144	NA	NA	9,494,400	37,977,600	9,494,400	37,977,600

M07	30921462	Boiler	19735	35,328	40,000	2,095,182 (A)	2,919,708 (A)	34,431,810	137,727,240
		Boiler	19737	70,000	70,000	5,263,158 (C)	5,263,158 (C)		
		Boiler	20441	NA	NA	4,636,800	18,547,200		
		Boiler	20442	NA	NA	13,910,400	55,641,600		
		Boiler	20600	70,000	70,000	5,109,489 (A)	5,109,489 (A)		
		Boiler	20870	NA	NA	4,636,800	18,547,200		
		Boiler	20873	NA	NA	9,273,600	34,431,810		
		Boiler	21080	64,915	70,000	4,739,336 (A)	5,109,489 (A)		

**V-E. EQUIPMENT
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**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

Fuel Source	Meter No.	Equipment Description	PO No.	Energy Limit (Therms)		Fuel Usage Limit by Boiler (cubic feet of natural gas)		Fuel Limit by Meter (cubic feet of natural gas)	
				Quarter	Year	Quarter	Year	Quarter	Year

M08	29798230	Boiler	21081	37,094	40,000	2,707,620 (A)	2,919,708 (A)	16,145,990	64,583,960
		Boiler	21145	NA	NA	10,819,200	34,431,810		
		Boiler	20439	NA	NA	5,520,000	22,080,000		
		Boiler	20440	NA	NA	3,753,600	15,014,400		
		Boiler	20872	NA	NA	5,520,000	22,080,000		
		Boiler	21146	NA	NA	9,936,000	39,744,000		

M09	29797889	Boiler	19733	64,915	70,000	4,738,321 (A)	5,109,489 (A)	21,981,890	87,927,560
		Boiler	20438	NA	NA	9,273,600	37,094,400		
		Boiler	20869	NA	NA	9,273,600	37,094,400		
		Boiler	21605	NA	NA	18,547,200	74,188,800		

T19	276336	Boiler	19750	21,971	40,000	24,000 (D)	43,693 (D)	24,000 (D)	43,693 (D)
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**V-E. EQUIPMENT
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REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

Fuel Source	Meter No.	Equipment Description	PO No.	Energy Limit (Therms)		Fuel Usage Limit by Boiler (cubic feet of natural gas)		Fuel Limit by Meter (cubic feet of natural gas)	
				Quarter	Year	Quarter	Year	Quarter	Year

T64	92628	Boiler	19747	12,287	40,000	13,422 (D)	43,693 (D)	13,422 (D)	43,693 (D)
NA	NA	Portable Boiler	19731	40,000	40,000	2,919,708 (A)	2,919,708 (A)	NA	NA

NA	NA	Portable Boiler	19732	55,642	70,000	4,061,431 (A)	5,109,489 (A)	NA	NA
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NA	NA	Portable Boiler	21147	108,192	200,000	7,987,226 (A)	14,598,540 (A)	NA	NA
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- (A) The meter is not compensated for pressure or temperature, therefore a 1.37 adjustment factor (actual divided by 1.37) is used to account for the meter's pressure (11" wc).
- (B) The meter is not compensated for pressure or temperature, therefore a 1.32 adjustment factor (actual divided by 1.32) is used to account for the meter's pressure (9.5" wc).
- (C) The meter is not compensated for pressure or temperature, therefore a 1.33 adjustment factor (actual divided by 1.33) is used to account for the meter's pressure (10" wc).
- (D) Gallons of propane.

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

8. Each of the following boilers shall be equipped with a non-resetting totalizing fuel meter that meets the requirements of SMAQMD Rule 411. The totalizing function of the meter shall have the ability to read up to at least 100 million cubic feet of gas before rolling over.

[Basis: SMAQMD Rule 411]

PO No.	Type of Device for Monitoring Total Fuel Usage
19729 19748 21000 19731 19749 21080 19732 19750 21081 19733 19752 21084 19735 20313 21147 19737 20384 21203 19747 20600	Non-resetting totalizing fuel meter with a minimum display capability of 100 million cubic feet of gas

9. Each of the following boilers shall be fueled only with the fuel specified below, except as otherwise allowed by Condition No. 10.A.

[Basis: SMAQMD Rules 202 and 411]

PO No.	Type of Fuel
12918 19733 19748 20438 20600 21000 21084 21145 14603 19735 19749 20439 20869 21080 21141 21146 19729 19737 19752 20440 20870 21081 21142 21147 19731 21145 20313 20441 20872 21082 21143 21203 19732 21146 20384 20443 20873 21083 21144	Natural Gas
19731 19735 20438 20441 20870 21080 21145 19732 19737 20439 20600 20872 21081 21146 19733 20384 20440 20869 20873 21144 21147	Propane - only when natural gas is not available
19747 19750	Propane

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

10. Each of the following portable boilers shall be operated to comply with the following.
[Basis: SMAQMD Rules 202 and 411]

PO No.	Operational Requirements
19731 19732 21147	<p>A. The portable boiler shall be fueled from the same fuel source that supplies fuel to the boiler that it is replacing.</p> <p>B. All quarterly fuel usage constraints imposed on the boiler that is being temporarily replaced shall be in effect for the combined fuel usage of the portable boiler and the boiler being replaced.</p> <p>C. The portable boiler shall only be utilized as a temporary replacement boiler and the portable boiler's maximum rating and potential to emit of any pollutant shall not be greater than the boiler that it replaces.</p> <p>D. The fuel consumption of the portable boiler used for each replacement event shall be monitored with the use of an individual fuel meter dedicated to the portable boiler.</p>

11. Each of the following boilers shall be tuned at described.
[Basis: SMAQMD Rule 411]

PO No.	Boiler Tuning
19729 19749 19731 19750 19732 19752 19733 20600 19735 21000 19737 21080 19747 21081 19748 21084	<p>A. Each boiler shall be tuned at least once per year by a qualified technician in accordance with the procedures described in Attachment A of SMAQMD Rule 411 BOILER NOx.</p> <p>B. If the boiler is not operational for the entire calendar year, then no tune-up shall be required until re-start of the unit.</p>

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

RECORD KEEPING AND REPORTING REQUIREMENTS

12. For each of the following boilers, a Boiler Tune-Up Verification Report shall be submitted as described.

[Basis: SMAQMD Rule 411]

PO No.	Boiler Tune-Up Verification Report
19729 19749 19731 19750 19732 19752 19733 20600 19735 21000 19737 21080 19747 21081 19748 21084	A. The owner or operator of the boiler shall submit to the SMAQMD Air Pollution Control Officer a Tune-Up Verification Report pursuant to SMAQMD Rule 411 BOILER NOx, or a verification of inactivity not less than once every calendar year.

13. For each of the following boilers, records shall be continuously maintained onsite for the most recent five-year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly and annual records shall be made available within 30 days of the end of the reporting period.

[Basis: SMAQMD Rules 202 and 411]

PO No.	Frequency	Information to be Recorded
19729	At all times	A. High heating value (HHV) of the fuel (BTU/pound)
	Quarterly	B. Natural gas fuel usage for the boiler (therms/quarter)
	Annual	C. Natural gas fuel usage for the boiler (therms/year)
19733 19735 19737 19748 19749	At all times	D. High heating value (HHV) of the fuel (BTU/pound)
	Quarterly	E. Natural gas consumption
		F. Propane consumption
	Annual	G. Fuel usage for the boiler (therms/year)
19752 21145 21146		

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO No.	Frequency	Information to be Recorded
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19747 19750	At all times	H. High heating value (HHV) of the fuel (BTU/pound)
	Quarterly	I. Calculation of propane fuel usage for the boiler per Attachment A of local permit (therms/quarter)
	Annual	J. Propane fuel usage for the boiler per Attachment A of local permit (therms/year)

20313	At all times	K. High heating value (HHV) of the fuel (BTU/pound)
	Annual	L. Natural gas fuel usage for the boiler (therms/year)

20384	Quarterly	M. Natural gas consumption
		N. Propane consumption

21000 21080 21081 21084	Quarterly	O. Natural gas consumption for the boiler (therms/quarter)
	Annual	P. Natural gas consumption for the boiler (therms/year)

14. For each of the following boilers, records shall be continuously maintained onsite for the most recent five-year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly records shall be made available within 30 days following the end of the quarter.

[Basis: SMAQMD Rule 202]

PO No.						Information to be Recorded
12918	19748	20440	21146	21084	21147	Total quarterly fuel consumption from each fuel source. (ft3/quarter)
14603	19749	20441	20873	21141	21203	
19729	19750	20443	21000	21142		
19733	19752	20600	21080	21143		
19735	20313	20869	21081	21144		
19737	20438	20870	21082	21145		
19747	20439	20872	21083	21146		

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

15. For each of the following boilers, records shall be continuously maintained on site for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly records shall be made available within 30 days following the end of the quarter.

[Basis: SMAQMD Rule 202]

PO No.	Frequency	Information to be Recorded
19731 19732 21147	At the start of a replacement event	<p>A. The location of the boiler that is being replaced.</p> <p>B. The permit number of the boiler that is being replaced.</p> <p>C. The heat input rating of the boiler that is being replaced.</p> <p>D. The fuel consumption limit of the boiler that is being replaced.</p> <p>E. The main fuel source meter identification number that serves the boiler that is being replaced.</p> <p>F. The type of fuel that is being used.</p> <p>G. The starting date of the replacement event.</p> <p>H. The initial fuel meter reading of the portable boiler for the replacement event.</p>
	At the completion of a replacement event	<p>I. The final fuel meter reading of the portable boiler for the replacement event.</p> <p>J. The total fuel consumption of the portable boiler for the replacement event.</p>

**V-E. EQUIPMENT
 SPECIFIC
 REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
 (continued)**

PO No.	Frequency	Information to be Recorded
	Quarterly, if the main fuel source meter identified above shows fuel usage in excess of the quarterly limit specified by the permits of the equipment permanently connected to it	<p>K. Subtract the fuel usage of the portable replacement boiler from the quarterly fuel usage as measured by the main fuel source meter identified above.</p> <p>L. If the adjusted fuel consumption is less than the main fuel source meter's limit, then the combination of permanent equipment and the portable replacement boiler is in violation of the permit limits.</p> <p>M. The violation shall be attributed to the portable replacement boiler.</p>
	Quarterly, if the portable replacement boiler replaced a boiler with an individual fuel usage constraint	N. The combined quarterly fuel usage of the portable replacement boiler and the boiler it replaced to verify compliance with the individual fuel usage constraint of the replaced boiler.
	Annually	O. Total fuel usage for the boiler (in therms/year). An adjustment factor of 1.37 shall be used when calculating natural gas usage to compensate for the non-pressure-regulated gas meter [(ft ³ * 1.37*1000 BTU/ft ³)/100,000 BTU/therm]

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

EMISSION REDUCTION CREDIT (ERC) REQUIREMENTS

16. Emission Reduction Credit (ERC) certificates, as indicated, are required and have been surrendered to the SMAQMD Air Pollution Control Officer.

[Also indicated is the value of the ERC certificate emissions after applying the applicable Offset Ratio. This value is the SMAQMD Rule 202 required emission offset.]

[Basis: SMAQMD Rule 202]

PO No. 12918	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
ROC SMAQMD ERC 97-00441 SMUD Twin Cities	26.3	26.3	26.3	26.3	1.5	17.5	17.5	17.5	17.5
NOx SMAQMD ERC 97-00441 SMUD Twin Cities	183.2	183.2	183.2	183.2	1.5	122.1	122.1	122.1	122.1

PO 20384	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
ROC SMAQMD ERC C07-1013 Loan expires 10-01-2027	12	12	12	12	1.0	12	12	12	12
NOx SMAQMD ERC C07-1013 Loan expires 10-01-2027	82	82	82	82	1.0	82	82	82	82

**V-E. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
(continued)**

PO 20384	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
PM10 SMAQMD ERC C07-1013 Loan expires 10-01-2027	20.4	20.4	20.4	20.4	1.2	17	17	17	17

PO 21203	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
ROC SMAQMD ERC 99-00592 Swanson	127.4	127.4	127.4	127.4	1.3	98	98	98	98
NOx SMAQMD ERC 97-00442 SMUD Twin Cities	316.8	316.8	316.8	316.8	1.5	211.2	211.2	211.2	211.2
NOx SMAQMD ERC 99-00624 Chinet	394.2	394.2	394.2	394.2	1.3	303.2	303.2	303.2	303.2
NOx SMAQMD ERC 99-00625 Chinet	210.8	210.8	210.8	210.8	1.3	162.1	162.1	162.1	162.1

**V-E. EQUIPMENT
 SPECIFIC
 REQUIREMENTS**

**(39) BOILER, SMALL, < 5 MMBTU/HR
 (continued)**

PO 21144	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
ROC SMAQMD ERC C05-1001 Loan expires 01-01-2020	83.2	83.2	83.2	83.2	1.3	64	64	64	64
NOx SMAQMD ERC C05-1001 Loan expires 01-01-2020	548.6	548.6	548.6	548.6	1.3	422	422	422	422
PM10 SMAQMD ERC C05-1001 Loan expires 01-01-2020	105.6	105.6	105.6	105.6	1.2	88	88	88	88

**V-F. EQUIPMENT
SPECIFIC
REQUIREMENTS**

(9) BOILER, LARGE, ≥ 5 MMBTU/HR

A. EQUIPMENT DESCRIPTION: The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Boiler Description	Location/ Building	Use	Fuel Source/ Fuel
12369	York Shipley Model No. SPHC59-125-3 Serial No. 60-6191 Rating 6.3 MMBTU/hr	04045	Steam	T13 Propane
12370	Cleaver Brooks Model No. CB100-125 Serial No. L76910 Rating 5.25 MMBTU/hr	04090	Steam	T23 Propane
14064	Hurst Model No. 5712 Serial No. S625-15-24 Rating 5.0 MMBTU/hr	38008	Steam	001A Meter No. XXX Synthetic Diesel Fuel
14611	Cleaver Brooks Model No. D-26-RH Serial No. WG3378 Rating 15.6 MMBTU/hr	38008	Steam	001B Meter No. XXX Synthetic Diesel Fuel
19751	ABCO Ind. Model No. 125RD Serial No. 8712 Rating 5.25 MMBTU/hr	36015	Steam	T54 Propane
20442	Husky/Ray Model No. WR3-150 Serial No. B5173 Rating 6.3 MMBTU/hr	01086	Steam	M07 Meter No. 30921462 Natural Gas or Propane
20601	Cleaver Brooks Model No. CB100-125 Serial No. L78698 Rating 5.25 MMBTU/hr	Various Locations (Portable Backup)	Steam	Varies Propane or natural gas
20602	ABCO Ind. Model No. 125A Serial No. 8889 Rating 5.28 MMBTU/hr	Various Locations (Portable Backup)	Steam	Varies Propane or natural gas

**V-F. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(9) BOILER, LARGE, ≥ 5 MMBTU/HR
(continued)**

PO No.	Boiler Description	Location/ Building	Use	Fuel Source/ Fuel
21605	Husky/Ray Model No. WR3-200 Serial No. B7948 Rating 8.4 MMBTU/hr	01023	Steam	M09 Meter No. 29797889 Natural Gas or Propane

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified in this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

- Each boiler shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.
[Basis: SMAQMD Rule 401]
- Combustion contaminants from each boiler shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot of gas corrected to 12% CO₂ at standard conditions.
[Basis: SMAQMD Rule 406]
- The specified boiler shall not emit more than the following.
[Basis: SMAQMD Rule 411]

PO No.	Maximum Allowable Emission Concentration Averaged over a period of 15 consecutive minutes and corrected to 3% O ₂	
	NO _x	CO
14064	40 ppmvd	400 ppmvd
14611	30 ppmvd	400 ppmvd
19751	30 ppmvd	400 ppmvd
20442	15 ppmvd	400 ppmvd
20601	30 ppmvd	400 ppmvd

**V-F. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(9) BOILER, LARGE, ≥ 5 MMBTU/HR
(continued)**

PO No.	Maximum Allowable Emission Concentration Averaged over a period of 15 consecutive minutes and corrected to 3% O ₂	
	NO _x	CO
20602	30 ppmvd	400 ppmvd
21605	15 ppmvd	400 ppmvd

4. Emissions from the specified boiler shall not exceed the following limits.

[Basis: SMAQMD Rules 202 and 411]

PO Nos. 12369 and 12370 each			
Pollutant	Emission Factor lb/Mgal	Maximum Allowable Emissions (A)	
		lb/quarter	lb/year
ROC	0.36	34	34
NO _x	8.8	843	843
SO ₂	0.02	2	2
PM ₁₀	1.11	107	107
CO	28.14	2695	2695

(A) Quarterly and annual emissions limits are based on 95,780 gallons of propane fuel with a heat content of 93,965 BTU/gallon (the equivalent of 90,000 therms) per quarter and per year.

PO No. 14064			
Pollutant	Emission Factor (A) lb/Mgal	Maximum Allowable Emissions (B)	
		lb/quarter	lb/year
ROC	0.34	22	22
NO _x	7.1	464	464
SO ₂	1.4	92	92
PM ₁₀	2.0	131	131
CO	42.9	2804	2804

**V-F. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(9) BOILER, LARGE, ≥ 5 MMBTU/HR
(continued)**

- (A) Emission factor for NO_x based on 40 ppmvd at 3% O₂. Emission factor for CO based on 400 ppmvd at 3% O₂. Emission factor for SO₂ based on a sulfur content of 0.01% sulfur by weight. ROC and PM₁₀ emission factors from U.S. EPA AP42 (1/95).
- (B) Quarterly and annual emissions limits are based on 65,359 gallons of liquid fuel with a heat content of 137,700 BTU/gallon (the equivalent of 90,000 therms) per quarter and per year.

PO No. 14611		
Pollutant	Emission Factor (A) lb/Mgal	Maximum Allowable Emissions (B) lb/quarter
ROC	0.2	30
NO _x	5.3	800
SO ₂	1.4	211
PM ₁₀	2.0	302
CO	42.9	6478

- (A) Emission factor for NO_x based on 30 ppmvd at 3% O₂. Emission factor for CO based on 400 ppmvd at 3% O₂. Emission factor for SO₂ based on a sulfur content of 0.01% sulfur by weight. ROC and PM₁₀ emission factors from U.S. EPA AP42 (9/98).
- (B) Maximum allowable emissions limits are based on 150,999 gallons of liquid fuel per quarter and the emission factor stated.

PO No. 19751			
Pollutant	Emission Factor (A) lb/MMBTU	Maximum Allowable Emissions (B)	
		lb/quarter	lb/year
ROC	0.005462	6	23
NO _x	0.036428	38	152
SO ₂	0.000218	0.2	1
PM ₁₀	0.004369	5	18
CO	0.295005	308	1,232

- (A) Emission factor for NO_x based on 30 ppmvd at 3% O₂. Emission factor for CO based on 400 ppmvd at 3% O₂. Emission factor for SO₂ based on a mass balance

**V-F. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(9) BOILER, LARGE, ≥ 5 MMBTU/HR
(continued)**

with the sulfur content of gaseous fuels of 2000 grains/MMcf. ROC and PM10 emission factors from U.S. EPA AP42, Table 1.5-1 (10/96).

- (B) Based on maximum capacity of 5.25 MMBTU/hr of propane, 24 hour/day. Quarterly and annual emissions based on 10,436 therms/quarter and 41,744 therms/year.

PO No. 20442			
Pollutant	Emission Factor		Maximum Allowable Emissions (C)
	Natural Gas (A)	Propane (B)	lb/quarter
ROC	5.5	0.5	77
NOx	18.2	1.65	253
SO2	0.6	0.02	8
PM10	7.6	0.4	106
CO	295	6.7	4,104

- (A) Units are lb/MMcf of gas. Emission factors for ROC, SO2, and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factor for NOx is based on a concentration of 15 ppm at 3% O2. Emission factor for CO based on 400 ppmvd at 3% O2. The emission factors are converted from volume to energy basis

- (B) Units are lb/Mgal of propane. Emission factors for ROC, SO2, and PM10 are from U.S. EPA AP42, Table 1.5-1 (10/96). Emission factor for NOx is based on a concentration of 15 ppm at to 3% O2. Emission factor for CO based on 400 ppmvd at 3% O2. The emission factors are converted from volume to energy basis.

- (C) Based on highest emission factor and a fuel usage of 6.3 MMBTU/hr, 24 hours/day, and 92 days per quarter.

PO No. 20601				
Pollutant	Natural Gas Emission Factor (A) lb/MMBTU	Propane Emission Factor (B) lb/Mgal	Maximum Allowable Emissions (C)	
			lb/quarter	lb/year
ROC	0.0055	0.005462	64	110
NOx	0.0364	0.037904	422	728
SO2	0.0006	0.000218	7	12
PM10	0.0076	0.004369	88	152
CO	0.295	0.30695	3,420	5,900

**V-F. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(9) BOILER, LARGE, ≥ 5 MMBTU/HR
(continued)**

- (A) Emission factors for ROC, SO₂ and PM₁₀ are from U.S. EPA AP42, Table 1.4-1,2 (7/98). Emission factors for NO_x and CO are based on 30 ppmvd and 400 ppmvd at 3% O₂, respectively.
- (B) Emission factors for ROC, SO₂ and PM₁₀ are from U.S. EPA AP42, Tables 1.5-1 (10/96). Emission factors for NO_x and CO are based on the 30 ppmvd and 400 ppmvd at 3% O₂, respectively.
- (C) Based on maximum capacity, 5.25 MMBTU/hr, 24 hour/day, 116,582 therms/quarter, 200,000 therms/year and the emission factors listed in this table that result in the highest emission.

PO No. 20602				
Pollutant	Natural Gas Emission Factor (A) lb/MMBTU	Propane Emission Factor (B) lb/Mgal	Maximum Allowable Emissions (C)	
			lb/quarter	lb/year
ROC	0.0055	0.005462	64	110
NO _x	0.0364	0.037904	424	728
SO ₂	0.0006	0.000218	7	12
PM ₁₀	0.0076	0.004369	89	152
CO	0.295	0.30695	3,578	5,900

- (A) Emission factors for ROC, SO₂ and PM₁₀ are from U.S. EPA AP42, Table 1.4-1,2 (7/98). Emission factors for NO_x and CO are based on 30 ppmvd and 400 ppmvd at 3% O₂, respectively.
- (B) Emission factors for ROC, SO₂ and PM₁₀ are from U.S. EPA AP42, Tables 1.5-1 (10/96). Emission factors for NO_x and CO are based on the 30 ppmvd and 400 ppmvd at 3% O₂, respectively.
- (C) Based on maximum capacity (5.28 MMBTU/hr), 24 hour/day, 116,582 therms/quarter, 200,000 therms/year and the emission factors listed in this table that result in the highest emission.

**V-F. EQUIPMENT
 SPECIFIC
 REQUIREMENTS**

**(9) BOILER, LARGE, ≥ 5 MMBTU/HR
 (continued)**

PO No. 21605			
Pollutant	Emission Factor		Maximum Allowable Emissions (C)
	Natural Gas (A)	Propane (B)	lb/quarter
ROC	5.5	0.5	102
NOx	18.2	1.65	338
SO2	0.6	0.02	11
PM10	7.6	0.4	141
CO	295	6.7	5,471

- (A) Units are lb/MMcf of gas. Emission factors for ROC, SO2, and PM10 are from U.S. EPA AP42, Tables 1.4-1 and 1.4-2 (7/98). Emission factor for NOx is based on a concentration of 15 ppm at 3% O2. Emission factor for CO based on 400 ppmvd at 3% O2. The emission factors are converted from volume to energy basis
- (B) Units are lb/Mgal of propane. Emission factors for ROC, SO2, and PM10 are from U.S. EPA AP42, Table 1.5-1 (10/96). Emission factor for NOx is based on a concentration of 15 ppm at to 3% O2. Emission factor for CO based on 400 ppmvd at 3% O2. The emission factors are converted from volume to energy basis.
- (C) Based on highest emission factor and a fuel usage of 8.4 MMBTU/hr, 24 hours/day, and 92 days per quarter.

**V-F. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(9) BOILER, LARGE, ≥ 5 MMBTU/HR
(continued)**

EQUIPMENT DESIGN, OPERATION AND MONITORING REQUIREMENTS

5. The combined total fuel consumption through each fuel meter and for each boiler shall not exceed the following limits.
[Basis: SMAQMD Rules 202 and 411]

(NOTE - shading in the PO No. column indicates large boilers discussed in this section.)

Fuel Source	Meter No.	Equipment Description	PO No.	Energy Limit (Therms)		Fuel Usage Limit by Boiler (cubic feet of natural gas)		Fuel Limit by Meter (cubic feet of natural gas)	
				Quarter	Year	Quarter	Year	Quarter	Year
M07	30921462	Boiler	19735	35,328	40,000	2,095,182 (A)	2,919,708 (A)	34,431,810	137,727,240
		Boiler	19737	70,000	70,000	5,263,158 (C)	5,263,158 (C)		
		Boiler	20441	NA	NA	4,636,800	18,547,200		
		Boiler	20442	NA	NA	13,910,400	55,641,600		
		Boiler	20600	70,000	70,000	5,109,489 (A)	5,109,489 (A)		
		Boiler	20870	NA	NA	4,636,800	18,547,200		
		Boiler	20873	NA	NA	9,273,600	34,431,810		
		Boiler	21080	64,915	70,000	4,739,336 (A)	5,109,489 (A)		
		Boiler	21081	37,094	40,000	2,707,620 (A)	2,919,708 (A)		
		Boiler	21145	NA	NA	10,819,200	34,431,810		

**V-F. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(9) BOILER, LARGE, ≥ 5 MMBTU/HR
(continued)**

Fuel Source	Meter No.	Equipment Description	PO No.	Energy Limit (Therms)		Fuel Usage Limit by Boiler (cubic feet of natural gas)		Fuel Limit by Meter (cubic feet of natural gas)	
				Quarter	Year	Quarter	Year	Quarter	Year
M09	29797889	Boiler	19733	64,915	70,000	4,738,321 (A)	5,109,489 (A)	21,981,890	87,927,560
		Boiler	20438	NA	NA	9,273,600	37,094,400		
		Boiler	20869	NA	NA	9,273,600	37,094,400		
		Boiler	21605	NA	NA	18,547,200	74,188,800		
T13B	NA	Boiler	12369	90,000	90,000	95,780 (D)	95,780 (D)	95,780 (D)	95,780 (D)
T23	NA	Boiler	12370	90,000	90,000	95,780 (D)	95,780 (D)	95,780 (D)	95,780 (D)
T54	NA	Boiler	19751	10,436	41,744	11,400 (D)	45,600 (D)	11,400 (D)	45,600 (D)
001A	NA	Boiler	14064	NA	NA	65,359 (E)	65,359 (E)	65,359 (E)	65,359 (E)

**V-F. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(9) BOILER, LARGE, ≥ 5 MMBTU/HR
(continued)**

Fuel Source	Meter No.	Equipment Description	PO No.	Energy Limit (Therms)		Fuel Usage Limit by Boiler (cubic feet of natural gas)		Fuel Limit by Meter (cubic feet of natural gas)	
				Quarter	Year	Quarter	Year	Quarter	Year

001B	NA	Boiler	14611	NA	NA	150,999 (E)	603,996 (E)	150,999 (E)	603,996 (E)
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NA	NA	Portable Boiler	20601	115,920	200,000	8,461,314 (A)	14,598,540 (A)	NA	NA
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NA	NA	Portable Boiler	20602	116,582	200,000	8,509,664 (A)	14,598,540 (A)	NA	NA
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- (A) The meter is not compensated for pressure or temperature thus a 1.37 adjustment factor (actual divided by 1.37) is used to account for the meter's pressure (11" wc).
- (B) The meter is not compensated for pressure or temperature thus a 1.32 adjustment factor (actual divided by 1.32) is used to account for the meter's pressure (9.5" wc).
- (C) The meter is not compensated for pressure or temperature thus a 1.33 adjustment factor (actual divided by 1.33) is used to account for the meter's pressure (10" wc).
- (D) Gallons of propane.
- (E) Gallons of synthetic diesel fuel.

**V-G. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(9) BOILER, LARGE, ≥ 5 MMBTU/HR
(continued)**

6. Each of the following boilers shall be equipped with a non-resetting totalizing fuel meter that meets the requirements of SMAQMD Rule 411. The totalizing function of the meter shall have the ability to read up to at least 100 million cubic feet of gas before rolling over.

[Basis: SMAQMD Rule 411]

PO No.	Type of Device for Monitoring Total Fuel Usage
12369 14611 20602 12370 19751 14064 20601	Non-resetting totalizing fuel meter with a minimum display capability of 100 million cubic feet of gas

7. Each of the following boilers shall be fueled only with the fuel specified below, except as otherwise allowed by Condition No. 10.A.

[Basis: SMAQMD Rules 202 and 411]

PO No.	Type of Fuel
20442, 21605	Natural Gas with Propane as Backup Fuel
12369, 12370, 19751	Propane
14064, 14611	Synthetic Diesel with Propane pilot
20601, 20602	Natural Gas or Propane

8. Each of the following portable boilers shall be operated to comply with the following.

[Basis: SMAQMD Rules 202 and 411]

PO No.	Operational Requirements
20601 20602	A. The portable boiler shall be fueled from the same fuel source that supplies fuel to the boiler that it is replacing. B. All quarterly fuel usage constraints imposed on the boiler that is being temporarily replaced shall be in effect for the combined fuel usage of the portable boiler and the boiler being replaced. C. The portable boiler shall only be utilized as a temporary replacement boiler and the portable boiler's maximum rating and potential to emit of any pollutant shall not be greater than the boiler that it replaces.

**V-G. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(9) BOILER, LARGE, ≥ 5 MMBTU/HR
(continued)**

PO No.	Operational Requirements
	D. The fuel consumption of the portable boiler used for each replacement event shall be monitored with the use of an individual fuel meter dedicated to the portable boiler.

9. Each of the following boilers shall be tuned as described.

[Basis: SMAQMD Rule 411]

PO No.	Boiler Tuning
12369 12370 19751 20601 20602	A. Each boiler shall be tuned at least once per year by a qualified technician in accordance with the procedures described in Attachment A of SMAQMD Rule 411 BOILER NO _x . B. If the boiler is not operational for the entire calendar year, then no tune-up shall be required until re-start of the boiler.

RECORD KEEPING AND REPORTING REQUIREMENTS

10. For each of the following boilers, a Boiler Tune-Up Verification Report shall be submitted as described.

[Basis: SMAQMD Rule 411]

PO No.	Boiler Tune-Up Verification Report
12369 12370 19751 20601 20602	A. The owner or operator of the boiler shall submit to the SMAQMD Air Pollution Control Officer a Tune-Up Verification Report pursuant to SMAQMD Rule 411 BOILER NO _x , or a verification of inactivity not less than once every calendar year.

**V-G. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(9) BOILER, LARGE, ≥ 5 MMBTU/HR
(continued)**

11. For each of the following boilers, records shall be continuously maintained onsite for the most recent five-year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly and yearly records shall be made available within 30 days of the end of the reporting period.

[Basis: SMAQMD Rules 202 and 411]

PO No.	Frequency	Information to be Recorded
12369 12370	Yearly	A. Fuel consumption. (gallons/year)
14064	Quarterly	B. Fuel consumption. (gallons/quarter)
	Yearly	C. Fuel consumption. (gallons/year)
14611	Quarterly	D. Fuel consumption. (gallons/quarter)
19751	At all times	E. High Heating Value (HHV) of the fuel. (BTU/lb)
	Quarterly	F. Calculation of propane fuel usage for the boiler per Attachment A of PO No. 19751. (therms/quarter)
	Yearly	G. Propane fuel usage for the boiler. (therms/year)
20442	Quarterly	H. Combined fuel usage for all equipment connected to fuel source M07, including portable replacement boilers. (ft ³ /quarter)
	Annually	I. Propane fuel usage for the boiler. (therms/year)

**V-G. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(9) BOILER, LARGE, ≥ 5 MMBTU/HR
(continued)**

PO No.	Frequency	Information to be Recorded
20601 20602	At the start of a replacement event	<p>J. Location of the boiler being replaced.</p> <p>K. Reason for replacement.</p> <p>L. Permit to Operate number of boiler being replaced.</p> <p>M. Starting date of replacement.</p> <p>N. Type of fuel used and fuel source connected to.</p> <p>O. The initial fuel meter reading of the portable boiler for this replacement event.</p>
	At the completion of a replacement event	<p>P. The final fuel meter reading of the portable boiler for this replacement event.</p> <p>Q. The total fuel consumption of the portable boiler for this replacement event.</p>
	Quarterly, if any of the main fuel meters recorded above have fuel usages in excess of their quarterly limits as specified by the permits of the equipment permanently connected to these meters	R. The permittee shall subtract the fuel usage recorded for this portable boiler for the fuel source meter in question from the quarterly fuel usage that is in excess. If the adjusted fuel consumption is less than that fuel source meter's limit, then the combination of permanent equipment and this portable boiler is in excess and the violation shall be attributed to this portable boiler.
	Quarterly, if the portable replacement boiler replaced a boiler with an individual fuel usage constraint	S. The permittee shall record the combined quarterly fuel usages of the portable replacement boiler and the boiler it replaced to verify compliance with the individual fuel usage constraint of the replaced boiler. (therms/quarter)
	Quarterly	T. Combined fuel usage for the boiler. (therms/quarter)

**V-G. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(9) BOILER, LARGE, ≥ 5 MMBTU/HR
(continued)**

PO No.	Frequency	Information to be Recorded
	Annually	U. Combined fuel usage for the boiler. (therms/year)
21605	Quarterly	V. Combined fuel usage for all equipment connected to fuel source M09, including portable replacement boilers. (ft3/quarter)
	Annually	W. Propane fuel usage for the boiler. (therms/year)

EMISSIONS TESTING REQUIREMENTS

12. For each of the following boilers, the emissions of nitrogen oxides (NO_x), carbon monoxide (CO) and oxygen (O₂) shall be tested every other calendar year to verify compliance with Condition No. 3.

[Basis: SMAQMD Rule 411]

PO No.	Source Test Protocol
14064 14611 19751 20442 20601 20602 21605	<p>A. Submit a Source Test Plan to the SMAQMD Air Pollution Control Officer for approval at least 30 days before the source test is to be performed.</p> <p>B. Notify the SMAQMD Air Pollution Control Officer at least 7 days prior to the source test date if that date has been changed from the approved test date.</p> <p>C. During source testing, the boiler shall be operated at full load ($\geq 90\%$) unless an alternative boiler load has been approved in writing by the SMAQMD Air Pollution Control Officer.</p> <p>D. Submit the Source Test Report to the SMAQMD Air Pollution Control Officer within 60 days from the completion of the source test.</p> <p>E. All source test reports shall be continuously maintained on site for the most recent five-year period and shall be made available to the SMAQMD Air Pollution Control Officer upon</p>

**V-G. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(9) BOILER, LARGE, ≥ 5 MMBTU/HR
(continued)**

PO No.	Source Test Protocol
	request
	F. Emission testing methods shall be those specified in SMAQMD Rule 411 BOILER NOx Section 501.
	i. Oxides of nitrogen - CARB Method 100 or EPA Method 7E.
	ii. Carbon monoxide - CARB Method 100 or EPA Method 10.
	iii. Stack gas oxygen - CARB Method 100 or EPA Method 3A.
	iv. Carbon dioxide - CARB Method 100 or EPA Method 3A.

13. For PO No. 19751, the source test requirements in Condition No. 12 shall not be required in any calendar year in which the boiler has not operated.

[Basis: SMAQMD Rule 411]

EMISSION REDUCTION CREDIT (ERC) REQUIREMENTS

14. Emission Reduction Credit (ERC) certificates, as indicated, are required and have been surrendered to the SMAQMD Air Pollution Control Officer.

[Also indicated is the value of the ERC certificate emissions after applying the applicable Offset Ratio. This value is the SMAQMD Rule 202 required emission offset.]

[Basis: SMAQMD Rule 202]

PO No. 14611	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
ROC SMAQMD ERC 99-00592 Swanson	39	39	39	39	1.3	30	30	30	30
NOx SMAQMD ERC 99-00571 Chinet Company	1040	1040	1040	1040	1.3	800	800	800	800

**V-G. EQUIPMENT
SPECIFIC
REQUIREMENTS**

(60) SPACE HEATER

A. EQUIPMENT DESCRIPTION: The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment.

PO No.	Equipment Description	Location/ Building
12127	Make: Lambert/Raznor Model: Various Models Fuel: Natural Gas Number of Units: 36 at 0.1 MMBTU/hr each Combined Rating: 3.6 MMBTU/hr	20022
13660	Make: Various Makes Model: Various Models Fuel: Natural Gas Number of Units: 24 at various ratings Combined Rating: 3.015 MMBTU/hr	20015

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified in this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. Each space heater shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.
[Basis: SMAQMD Rule 401]
2. Combustion contaminants from each space heater shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot of gas corrected to 12% CO₂ at standard conditions.
[Basis: SMAQMD Rule 406]

**V-G. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(60) SPACE HEATER
(continued)**

3. Emissions from each space heater permit unit shall not exceed the following limits.
[Basis: SMAQMD Rule 202]

PO No. 12127		
Pollutant	Emission Factor (A) lb/MMcf	Maximum Allowable Emissions (B) lb/quarter
ROC	5.5	44
NOx	100	795
SO2	0.6	5
PM10	7.6	60
CO	84	668

- (A) Emission factors for ROC, NOx, SO2, PM10 and CO are based on U.S. EPA AP42, Table 1.4-2, 9/98.
(B) Based on 1000 BTU/cf, maximum capacity of 3.6 MMBTU/hr, 24 hours/day and 92 days/quarter.

PO No. 13660		
Pollutant	Emission Factor (A) lb/MMcf	Maximum Allowable Emissions (B) b/quarter
ROC	11	29
NOx	94	250
SO2	0.6	2
PM10	11.17	30
CO	296	787

- (A) Emission factors for ROC, NOx, SO2, PM10 and CO are based on U.S. EPA AP-42, Tables 1.4-1, 1.4-2 and 1.4-3 10/96.
(B) Quarterly emissions are based on 2,659,574 cubic feet per quarter.

**V-G. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(60) SPACE HEATER
(continued)**

EQUIPMENT OPERATION REQUIREMENTS

4. The space heaters shall only use natural gas fuel.
[Basis: SMAQMD Rule 202]
5. Quarterly fuel consumption by the specified space heater permit unit shall be monitored as indicated in the following table. The maximum natural gas fuel usage by the specified space heater permit unit shall not exceed the following.
[Basis: SMAQMD Rule 202]

PO No.	Fuel Usage Monitoring Device	Maximum Allowable Combined Natural Gas Fuel Usage (ft3/quarter)
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	Fuel Source	Meter Number	Equipment Monitored		
			PO No.	Description	
12127	M03	32706806	12127	(36) Space Heaters	43,574,720 (A)
			12918	Boiler	
			14603	Boiler	
			19752	Boiler	
			20313	Boiler	
			21082	Boiler	
			21083	Boiler	
			21084	Boiler	
			21141	Boiler	
			21142	Boiler	
			21143	Boiler	
			21203	Boiler	

13660	Non-resetting totalizing fuel meter	2,659,574
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(A) As measured at Fuel Source M03 and excluding the separately metered usage of natural gas for boiler PO No. 12918 and the separately metered usage of natural gas for boiler PO No. 21203 (both of which have fully offset their emissions by providing ERCs).

**V-G. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(60) SPACE HEATER
(continued)**

RECORD KEEPING REQUIREMENTS

6. The following records shall be continuously maintained onsite for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly records shall be made available within 30 days following the end of the reporting period.

[Basis: SMAQMD Rule 202]

PO No.	Frequency	Information to be Recorded
12127	Quarterly	A. Total fuel usage by boiler PO No. 12918. (ft3/quarter) B. Total fuel usage by boiler PO No. 21203. (ft3/quarter) C. Combined fuel usage, measured at fuel source M03, for all equipment listed in Condition No. 5 above. (ft3/quarter) D. Combined fuel usage, measured at fuel source M03, excluding the usage by boiler PO No. 12918 and boiler PO No. 21203. (ft3/quarter)
13660	Quarterly	E. Total fuel usage. (ft3/quarter)

**V-G. EQUIPMENT
 SPECIFIC
 REQUIREMENTS**

**(60) SPACE HEATER
 (continued)**

EMISSION REDUCTION CREDIT (ERC) REQUIREMENTS

7. Emission Reduction Credit (ERC) certificates, as indicated, are required and have been surrendered to the SMAQMD Air Pollution Control Officer.

[Also indicated is the value of the ERC certificate emissions after applying the applicable Offset Ratio. This value is the SMAQMD Rule 202 required emission offset.]

[Basis: SMAQMD Rule 202]

PO No. 13660	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
ROC SMAQMD ERC 98-00461 Swanson	44	44	44	44	1.5	29	29	29	29
NOx SMAQMD ERC 98-00460 Rancho Seco	375	375	375	375	1.3	250	250	250	250

**V-H. EQUIPMENT
SPECIFIC
REQUIREMENTS**

(2) ROCKET MOTOR TESTING - LIQUID FUELS

- A. EQUIPMENT DESCRIPTION:** The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
8534	Rocket Motor Test Stand, E Zone, liquid fuels	E Zone
12164	Rocket Motor Test Stand, E-5, liquid fuels	E Zone, Test Stand E-5

- B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS:** The requirements specified in this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

- Rocket testing shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.
[Basis: SMAQMD Rule 401]

- Emissions from Rocket Motor Testing - Liquid Fuels shall not exceed the following limits.
[Basis: SMAQMD Rule 201 and Rule 207]

PO No.	Pollutant	Emission Factor (A) lb/lb propellant	Maximum Allowable Emissions	
			lb/test	lb/day

8534	CO	Depends on fuel	1,800	3,600
	Fluorides	Depends on fuel	NA	16 combined with PO No. 8633 oxidizer flare stack

12164	CO	348 lb/sec	62,640	67,899
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(A) Emission factor based on data submitted with original permit application and additional information submitted by permittee.

**V-H. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(2) ROCKET MOTOR TESTING - LIQUID FUELS
(continued)**

3. The combined fluoride emissions from the E Zone Rocket Motor Testing, the J Zone Rocket Motor Testing and oxidizer flaring shall not exceed the following.
[Basis: SMAQMD Rule 201]

Equipment/Process	Maximum Allowable Fluoride Emissions from the Combined Listed Equipment/Process lb/day
A. PO 8534 - E Zone Rocket Motor Testing B. PO 21015 - J Zone Rocket Motor Testing C. PO 8633 - Oxidizer Flaring System	16

EQUIPMENT OPERATION REQUIREMENTS

4. E Zone Rocket Motor Testing with hydrogen or gaseous hydrocarbon fuels and the oxidizer flare stack shall operate only when the flare propane pilot system is in operation.
[Basis: SMAQMD Rule 201]
5. For Rocket Motor Test Stand E-5 (PO 12164) only -
The maximum rocket test duration shall not exceed 180 seconds.
[Basis: SMAQMD Rule 201]
6. For Rocket Motor Test Stand E-5 (PO 12164) only -
Rocket Test Stand E-5 shall not operate more than the following:
- A. One or more tests per 8 hour period that do not cumulatively exceed 65 seconds in duration, or no more than one test of greater than 65 seconds and less than or equal to 180 seconds in duration in any 24 hour period.
- B. 3 days per week
[Basis: SMAQMD Rule 201]
7. For Rocket Motor Test Stand E-5 (PO 12164) only -
No additional tests of any duration shall be performed at Rocket Test Stand E-5 on days when a greater than 65 second and less than or equal to 180 second test was performed.
[Basis: SMAQMD Rule 201]

**V-H. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(2) ROCKET MOTOR TESTING - LIQUID FUELS
(continued)**

8. For Rocket Motor Test Stand E-5 (PO 12164) only -
No tests of greater than 65 seconds in duration shall be performed under stable meteorological conditions.

A. Stable meteorological condition is defined as night time with 90 meter elevation wind speeds of less than 5 meters per second. Night time is defined as the period from 1 hour before sunset to 1 hour after sunrise.

[Basis: SMAQMD Rule 201]

9. For Rocket Motor Test Stand E-5 (PO 12164) only -
No tests of greater than 65 seconds and less than or equal to 180 seconds in duration shall be performed under the following wind conditions.

A. Any wind direction from 247° to 337° (WSW to NNW) regardless of wind speed.

B. Any wind direction from 202° to 247° (SSW to WSW) if the 90 meter elevation wind speed is greater than 5 meters per second (11 mph).

[Basis: SMAQMD Rule 201]

10. For Rocket Motor Test Stand E-5 (PO 12164) only -

A. The wind speed and direction data shall be obtained from the Doppler Acoustic Sounding system at an elevation of 90 meters.

B. Before a rocket test of duration greater than 65 seconds and less than or equal to 180 seconds can be performed, the permittee shall obtain and record consecutive rolling 15-minute averaged wind speed and direction data taken every 5 minutes.

i. 5 out of 6 consecutive wind speed and direction readings (15-minute rolling average taken every 5 minutes) shall conform to the constraints listed in Condition No. 9.

ii. The 6th or final reading shall conform to the constraints listed in Condition No. 9.

iii. The actual firing of the rocket shall commence within 5 minutes from achieving the necessary meteorological readings, as stated above, that conform to the constraints listed in Condition No. 9.

[Basis: SMAQMD Rule 201]

**V-H. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(2) ROCKET MOTOR TESTING - LIQUID FUELS
(continued)**

RECORD KEEPING REQUIREMENTS

11. The following records shall be continuously maintained onsite for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request.

[Basis: SMAQMD Rule 201]

PO No.	Frequency	Information to be Recorded
8534 12164	When conducting a rocket motor test	<p>A. Date.</p> <p>B. Starting time (PO No. 12164 only).</p> <p>C. Test duration time (seconds).</p> <p>D. Types of fuel combusted.</p> <p>E. Quantity of fuel combusted.</p> <p>F. Volume of cooling water used (PO No. 12164 only)</p> <p>G. Calculated CO emissions. (lb/test and lb/day)</p>
8534	When conducting a rocket motor test or oxidizer flaring with fluoridated oxidizers	<p>H. Types of fluorides used.</p> <p>I. The calculated daily hydrogen fluoride emissions from the following equipment combined.</p> <p>i. PO 8534 - E Zone Rocket Motor Testing</p> <p>ii. PO 21015 - J Zone Rocket Motor Testing</p> <p>iii. PO 8633 - Oxidizer Flaring System</p>
12164	When conducting a rocket motor test with a duration of more than 65 seconds and less than or equal to 180 seconds	<p>J. Time of Test.</p> <p>K. 90 meter wind speed and direction as required in Condition No. 10.</p>

**V-I. EQUIPMENT
SPECIFIC
REQUIREMENTS**

(6) ROCKET MOTOR TESTING - SOLID FUELS

A. EQUIPMENT DESCRIPTION: The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
66	Rocket Motor Test Stand, W-4, solid fuels	46100(W4)
68	Rocket Motor Test Stand, J-1A, solid fuels	38000
71	Rocket Motor Test Stand, T-4, solid fuels	46035
18853	Rocket Motor Test Stand, T-3, solid fuels	46035
18859	Rocket Motor Test Stand, T-2, solid fuels	46035
20703	Rocket Motor Test Stand, P-3, solid fuels	46030

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified in this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. Rocket motor testing shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.

[Basis: SMAQMD Rule 401]

2. Emissions from the rocket motor testing shall not exceed the following limits.

[Basis: SMAQMD Rule 201 and Rule 207]

PO No.	Pollutant	Emission Factor (A) lb/lb propellant	Maximum Allowable Emissions		Maximum Allowable Propellant	
			lb/day	lb/yr	lb/day	lb/yr
66 Test Stand W-4	NOx	0.0	0	0	18,000	728,324
	PM10	0.37	6,660	269,480		
	CO	0.23	4,140	167,515		

**V-I. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) ROCKET MOTOR TESTING - SOLID FUELS
(continued)**

PO No.	Pollutant	Emission Factor (A) lb/lb propellant	Maximum Allowable Emissions		Maximum Allowable Propellant	
			lb/day	lb/yr	lb/day	lb/yr

	HCl	0.20	3,600	145,665		
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68 Test Stand J-1A	NOx	0.0	0	0	60,000	606,390
	PM10	0.37	22,200	224,364		
	CO	0.23	13,800	139,470		
	HCl	0.20	12,000	121,278		

71 Test Stand T-4	NOx	0.0	0	0	2,000	144,802
	PM10	0.37	740	53,577		
	CO	0.23	460	33,304		
	HCl	0.20	400	28,960		

18853 Test Stand T-3 and 18859 Test Stand T-2 combined	NOx	0.00	0	0	300	3000 <u>lb/quarter</u>
	PM10	0.37	111	1,110		
	CO	0.23	69	690		
	HCl	0.20	60	600		

(A) Emission factor based on data submitted with original permit application and additional information submitted by the permittee.

**V-I. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) ROCKET MOTOR TESTING - SOLID FUELS
(continued)**

PO No.	Pollutant	Maximum Allowable Emissions (A)		
		lb/test	lb/year (1 test)	lb/year (2 tests)

20703 Test Stand P-3	PM10	35,185	35,185	70,370
	CO	23,234	23,234	46,468
	HCl	20,524	20,524	41,048

(A) The annual emission limit is dependent upon the number of tests performed and the ERC fees submitted to the SMAQMD.

EQUIPMENT OPERATION REQUIREMENTS

3. For Rocket Motor Test Stand P-3 (PO 20703) only -
The permittee's Responsible Official shall comply with all applicable requirements contained in Subpart A of 40 CFR Part 63.
[Basis: 40 CFR 63 Subpart P P P P P]
4. For Rocket Motor Test Stand P-3 PO (20703) only -
Rocket Motor Test Stand P-3 shall not perform more than 1 rocket test per 24-hour period.
[Basis: SMAQMD Rule 202]
5. For Rocket Motor Test Stand P-3 (PO 20703) only -
There shall be no more than a total of 2 rocket motor tests performed under PO 20703.
[Basis: SMAQMD Rule 202]
6. For Rocket Motor Test Stand P-3 (PO 20703 only) -
Rocket motor tests shall only be performed during daylight hours. Daylight hours are defined as one hour after sunrise to one hour before sunset.
[Basis: SMAQMD Rule 202]
7. For Rocket Motor Test Stand P-3 (PO 20703) only -
A. Rocket motor testing shall not occur under the following horizontal wind conditions.
 - i. Any wind that is greater than 10 m/sec, or

**V-I. EQUIPMENT
SPECIFIC
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**(6) ROCKET MOTOR TESTING - SOLID FUELS
(continued)**

- ii. Wind direction from 110° to 225° if the horizontal wind speed is greater than 2 m/sec.
- B. The wind speed and direction shall be obtained from the Doppler Acoustic Sounding system at an elevation between 200 and 300 meters.
 - i. The wind speed and direction shall be monitored and recorded 15 minutes and 5 minutes prior to the scheduled test.
 - ii. Data points for wind speed and direction from each reading shall be averaged to determine compliance with this condition.

[Basis: SMAQMD Rule 202]

- 8. For Rocket Motor Test Stand P-3 (PO 20703) only -
Rocket motor testing shall not occur if the SMAQMD has declared a "Spare the Air" advisory for the date of the test.

[Basis: SMAQMD Rule 202]

RECORD KEEPING REQUIREMENTS

- 9. The following records shall be continuously maintained onsite for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly and yearly records shall be made available within 30 days following the end of the reporting period.

[Basis: SMAQMD Rule 201]

PO No.	Frequency	Information to be Recorded
66 68 71	When conducting a rocket motor test	A. Date
	Daily	B. Quantity of propellant used. (lb/day)
	Yearly	C. Quantity of propellant used. (lb/year)

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**(6) ROCKET MOTOR TESTING - SOLID FUELS
 (continued)**

PO No.	Frequency	Information to be Recorded
18853 18859	When conducting a rocket motor test	D. Date E. Test duration time. (seconds) F. Types of propellant used.
	Daily	G. Quantity of propellant used. (lb/day)
	Quarterly	H. Quantity of propellant used. (lb/quarter)
20703	When conducting a rocket motor test	I. Date. J. Time of the test. K. Test duration time. (seconds) L. Quantity of propellant. (lb) M. The meteorological conditions (wind speed and direction) as stated in Condition No. 11.
	Quarterly	N. Quarterly emissions of PM10, CO and HCl (lb/quarter)
	Yearly	O. Annual emissions of PM10, CO and HCl (lb/year)

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REQUIREMENTS**

**(6) ROCKET MOTOR TESTING - SOLID FUELS
(continued)**

EMISSION REDUCTION CREDIT (ERC) REQUIREMENTS

10. Emission Reduction Credit (ERC) certificates, as indicated, are required and have been surrendered to the SMAQMD Air Pollution Control Officer.

[Also indicated is the value of the ERC certificate emissions after applying the applicable Offset Ratio. This value is the SMAQMD Rule 202 required emission offset.]

[Basis: SMAQMD Rule 202]

PO 18853 and PO 18859 combined	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
	Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
PM10 SMAQMD ERC C06-1001 Loan expires 04-01-2026		1110	1110	1110	1110	1.0	1110	1110	1110

11. For Rocket Motor Test Stand P-3 (PO 20703) only -
In lieu of providing Emission Reduction Credits to offset PM10 emissions as required by SMAQMD Rule 202 Section 302 the permittee shall pay a fee for each rocket test calculated pursuant to the federal Clean Air Act, Title I, Part D, Subpart 1, Section 173(e)(4) and utilizing the following assumptions.

- A. SMAQMD shall determine the average cost of stationary source control measures over the three years prior to the test.
 - B. The incremental increase in emissions beyond the permittee's permitted levels is 17.592 tons/year for each test.
 - C. Statutory maximum multiplication factor of 1.5
- [Basis: SMAQMD Rule 202]**

**V-J. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) ROCKET MOTOR TESTING - LIQUID AND
SOLID FUELS**

A. EQUIPMENT DESCRIPTION: The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
21015	Rocket Motor Test Stands, J Zone, liquid and solid fuels.	J Zone Area 38 Bldg 38090
8633	Oxidizer Flare System venting the run tank and supply lines from the tank safety valve to the thrust chamber assembly valve when fluorides are present.	
8641	Fuel Flare System venting the run tank and supply lines from the tank safety valve to the thrust chamber assembly valve when diborane fuels are tested.	
9284	APC Scrubber System venting hydrazine and nitrogen tetroxide emissions from rocket motor testing and propellant transfer, consisting of: 1. One (1) fuel scrubber, 10 ft long x 6 in diameter, water spray, gas labyrinth type using water solution as scrubbing liquor. 2. One (1) oxidizer scrubber, 10 ft long x 6 in diameter, water spray, gas labyrinth type using water solution as scrubbing liquor. 3. Associated piping, scrubbing liquor storage tanks.	

**V-J. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) ROCKET MOTOR TESTING - LIQUID AND
SOLID FUELS
(continued)**

PO No.	Equipment Description	Location/ Building
21132	Rocket Motor Test Stands, A Zone, liquid and solid fuels.	A Zone
9328	APC Scrubber System venting hydrazine and nitrogen tetroxide emissions rocket component testing and propellant transfer, consisting of: 1. One (1) fuel scrubber, 12 ft long x 18 in diameter, water spray, gas labyrinth type using water solution as scrubbing liquor. 2. One (1) oxidizer scrubber, 10 ft long x 18 in diameter, water spray, gas labyrinth type using water solution as scrubbing liquor. 3. Associated piping, scrubbing liquor storage tanks.	

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified in this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

- Rocket motor testing, fuel and oxidizer scrubbing system, and/or flaring stacks shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.

[Basis: SMAQMD Rule 401]

- Emissions from the rocket motor testing, fuel/oxidizer scrubbing systems, and fuel/oxidizer flaring systems shall not exceed the following limits.

[Basis: SMAQMD Rule 201 and Rule 202]

Rocket Motor Testing - Liquid and Solid Fuels				
PO No.	Pollutant	Emission Factor (A) lb/lb propellant	Maximum Allowable Emissions	
			lb/day	lb/quarter
8633	Fluorides	Depends on fuel	16 (B)	1472 (B)

**V-J. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) ROCKET MOTOR TESTING - LIQUID AND
SOLID FUELS
(continued)**

Rocket Motor Testing - Liquid and Solid Fuels				
PO No.	Pollutant	Emission Factor (A) lb/lb propellant	Maximum Allowable Emissions	
			lb/day	lb/quarter

9284	ROC	0.0061	NA	6.6 (C)
	NOx	0.333	NA	248.8 (D)

9328	ROC	4E-5	NA	0.0028 (E)
	NOx	0.333	NA	76.3 (D)

(A) Emission factor based on data submitted with original permit application and additional information submitted by the permittee.

(B) The fluoride emission limit is based on the combined emissions from J Zone rocket motor testing (PO 21015), E Zone rocket motor testing (PO 8534) and the oxidizer flaring system (PO 8633).

(C) Assumes a 99.39% efficiency for the fuel scrubber.

(D) Assumes a 66.7% efficiency for the oxidizer scrubber.

(E) Assumes a 99.96% efficiency for the fuel scrubber.

J Zone Rocket Motor Testing (PO 21015)				
Pollutant	Emission Factor lb/lb of Solid Propellant	Emission Factor lb/lb of Liquid Propellant	Maximum Allowable Emissions (A)	
			lb/day	lb/quarter
NOx	0.00	0.00	0	0
PM10	0.37	0.00	37	148
CO	0.23	Depends on fuel	NA	2250
Fluorides	0.00	Depends on fuel	16 (B)	1472
HCl	0.20	0	20	80

(A) Maximum allowable emissions are based on 100 lb of solid propellant per day and 400 lb of solid propellant per quarter.

(B) The fluoride emission limit is based on the combined emissions from J Zone rocket motor testing (PO 21015), E Zone rocket motor testing (PO 8534) and the oxidizer flaring system (PO 8633).

**V-J. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) ROCKET MOTOR TESTING - LIQUID AND
SOLID FUELS
(continued)**

A Zone Rocket Motor Testing (PO 21132)					
Pollutant	Emission Factor lb/lb of Solid Propellant (B)	Emission Factor lb/lb of Liquid Propellant	Emission Factor lb/lb of Hydrazine Liquid Monopropellant	Maximum Allowable Emissions (A)	
				lb/day	lb/quarter
NOx	0.00	0.00	0.00	0.00	0.00
PM10	0.37	0.00	0.00	19	1665
CO	0.23	Depends on fuel	0.00	NA	6179
HCl	0.20	0.00	0.00	10	900
NH3	0.00	0.00	0.35	70	1400

(A) Maximum allowable emissions are based on 50 lb of solid propellant per day, 4500 lb of solid propellant per quarter, 200 lb of hydrazine liquid monopropellant per day and 4000 lb of hydrazine liquid monopropellant per quarter.

(B) The emission factors are based on the average of emission factors for Atlas, THAAD and SM-MK-72 rocket motors in the permittee's permit application for PO 18853 and 18859.

EQUIPMENT OPERATION REQUIREMENTS

3. The amount of propellant used in the rocket motor testing shall not exceed the following limits.

[Basis: SMAQMD Rule 202]

PO No.	Type Of Propellant	Maximum Allowable Propellant Usage	
		lb/day	lb/quarter
21015 J Zone	Solid Propellant	100	400
21132 A Zone	Solid Propellant	50	4500
	Hydrazine Monopropellant	200	4000

4. For Rocket Motor Test Stand J Zone (PO 21015) only -
Solid propellant rocket motor testing shall only be performed between 8:00 am and 12:00 am.

[Basis: SMAQMD Rule 402]

**V-J. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) ROCKET MOTOR TESTING - LIQUID AND
SOLID FUELS
(continued)**

5. For Rocket Motor Test Stand J Zone (PO 21015) only -
Beryllium containing propellant shall not be used at J Zone rocket motor test stands.
[Basis: SMAQMD Rule 402]
6. For Rocket Motor Test Stand A Zone (PO 21132) only -
Hydrazine monopropellant rocket motor testing for rocket motor sizes greater than 35 pounds shall only be operated between 8:00 am and 5:00 pm.
[Basis: SMAQMD Rule 402]
7. For Rocket Motor Test Stand A Zone (PO 21132) only -
No hydrazine monopropellant rocket motor testing for rocket motor sizes greater than 80 pounds shall be performed at A Zone rocket motor test stands.
[Basis: SMAQMD Rule 402]
8. For Rocket Motor Test Stand A Zone (PO 21132) only -
No more than one rocket motor test shall be performed at both A Zone and P Zone rocket motor test stands during any one-hour period.
[Basis: SMAQMD Rule 402]
9. For Rocket Motor Test Stand A Zone (PO 21132) only -
Beryllium containing propellant shall not be used at A Zone rocket motor test stands.
[Basis: SMAQMD Rule 402]
10. J Zone rocket motor testing (PO 21015) and the fuel/oxidizer flaring systems (PO 8633 and 8641) shall operate only when the flare propane pilot system is in operation.
[Basis: SMAQMD Rule 402]
11. When in operation, the APC Scrubber Systems shall comply with the following requirements.
[Basis: SMAQMD Rule 402]

Equipment	Testing Frequency for Scrubber Solution	Maximum Contaminant Concentration in Scrubber Solution % by weight	
		Hydrazine	Nitric Acid
APC Scrubber System (PO 9264)	Monthly	15	15
APC Scrubber System (PO 9368)	Monthly	15	15

**V-J. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) ROCKET MOTOR TESTING - LIQUID AND
SOLID FUELS
(continued)**

RECORD KEEPING REQUIREMENTS

12. The following record shall be continuously maintained onsite for the most recent five-year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request.

[Basis: SMAQMD Rule 201 and 202]

PO No.	Frequency	Information to be Recorded
21015 J Zone Rocket Motor Test Stand	Whenever performing a rocket motor test	A. Date B. Starting time and ending time C. Test duration time (seconds) D. Types of fuel used E. Quantity of fuel used F. Expected CO emissions
21132 A Zone Rocket Motor Test Stand	Whenever performing a rocket motor test	G. Date H. Starting time and ending time I. Test duration time (seconds) J. Types of fuel used K. Quantity of fuel used L. Expected CO emissions

**V-J. EQUIPMENT
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REQUIREMENTS**

**(6) ROCKET MOTOR TESTING - LIQUID AND
SOLID FUELS
(continued)**

PO No.	Frequency	Information to be Recorded
8633 Oxidizer Flare System	Whenever performing a rocket motor test or flaring of fluoridated oxidizers	M. Types of fluorides used. N. Quantity of fluorides used. O. Expected combined daily hydrogen fluoride emissions from the following. i. J Zone rocket motor testing (PO 21015) ii. E Zone rocket motor testing (PO 8534) iii. Oxidizer flaring system (PO 8633)
8641 Fuel Flare System	Whenever performing a rocket motor test or flaring of diborane fuels	P. Amount of diborane fuel used.
9284 9328 APC Scrubber System	Whenever propellant is vented to the scrubber	Q. Monthly estimate of hydrazine and nitrogen tetroxide (N ₂ O ₄) usage on the test stands. R. Monthly analysis of nitric acid concentration in the oxidizer APC Scrubber solution. S. Monthly analysis of hydrazine concentration in the fuel APC Scrubber solution. T. Date and time scrubbing solution is removed and replaced. U. Calculation sheets showing how the emissions from the APC Scrubber are determined and the monthly emissions quantities.

**V-J. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) ROCKET MOTOR TESTING - LIQUID AND
SOLID FUELS
(continued)**

EMISSION REDUCTION CREDIT (ERC) REQUIREMENTS

13. Emission Reduction Credit (ERC) certificates, as indicated, are required and have been surrendered to the SMAQMD Air Pollution Control Officer.

[Also indicated is the value of the ERC certificate emissions after applying the applicable Offset Ratio. This value is the SMAQMD Rule 202 required emission offset.]

[Basis: SMAQMD Rule 202]

PO No. 21015	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
PM10 SMAQMD ERC C07-1008 Loan expires 04-01-2027	177.6	177.6	177.6	177.6	1.2	148	148	148	148

**V-K. EQUIPMENT
SPECIFIC
REQUIREMENTS**

(7) ABRASIVE BLASTING UNIT

A. EQUIPMENT DESCRIPTION: The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
6385	Abrasive Blasting Unit: Make: Progressive Blasting Systems Model: Semi-automatic Serial No.: 6304 Size: 3.5 ft x 3.5 ft x 14.3 ft Rating: 176 hp	20005
6386	APC Baghouse: Make: Progressive Blasting Systems Model: C Serial No.: 6304 Filter Cloth Area: 600 sq ft Blower Rating: 2000 CFM, 10 hp	
8532	Abrasive Blasting Unit: Make: Pauli and Griffin Model: PRAM 31 Serial No.: 109 Size: 5 ft x 4 ft x 3 ft Rating: 2 hp APC Baghouse: Make: Pauli and Griffin Model: SCWB-2452 Filter Cloth Area: 140 sq ft Blower Rating: 840 CFM, 2 hp	20004

**V-K. EQUIPMENT
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REQUIREMENTS**

**(7) ABRASIVE BLASTING UNIT
(continued)**

PO No.	Equipment Description	Location/ Building
8732	Abrasive Blasting Unit: Make: Clemco Model: Flo-Flor Blaster Model: SC 2452 Size: 20 ft x 12 ft x 8 ft Rating: 28 hp	20120
8733	APC Baghouse for Collecting Asbestos Containing Material: Make: Clemco Model: 2880 Filter Cloth Area: 2880 sq ft Rating: 11760 CFM, 20.75 hp	
9963	Abrasive Blasting Unit: Make: Pauli and Griffin Model: PRAM 31 Serial No.: 218 Size: 5 ft x 4 ft x 3 ft Rating: 2 hp APC Baghouse: Make: Pauli and Griffin Filter Cloth Area: 450 sq ft (cartridge type) Blower Rating: 840 CFM, 2 hp	20004
20917	Abrasive Blasting Unit: Make: Pauli and Griffin Model: PRAM 31 Serial No.: 212 Size: 77 ft3 (modified from original 60 ft3) APC Baghouse: Make: Pauli and Griffin Filter Cloth Area: 450 sq ft (cartridge type) Blower Rating: 840 CFM, 2 hp	01012

**V-K. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(7) ABRASIVE BLASTING UNIT
(continued)**

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified in this section are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. The equipment shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.

[Basis: SMAQMD Rule 401]

2. Particulate matter emissions from each baghouse shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot.

[Basis: SMAQMD Rule 404]

3. Emissions of PM10 from each of the following permit units shall not exceed the stated limits.

[Basis: SMAQMD Rule 202]

Abrasive Blasting Unit PO No.	Associated Baghouse PO No.	Maximum Allowable PM10 Emissions		
		lb/day	lb/quarter	lb/year
6385	6386	0.04	3.7	15
8532	8532	0.72	66.2	263
8732	8733	0.72	66.2	263
9963	9963	1.8	165.6	657
20917	20917	0.6	39	156

**V-K. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(7) ABRASIVE BLASTING UNIT
(continued)**

EQUIPMENT OPERATION REQUIREMENTS

4. The following operational requirements are applicable to the stated PO No.

Applicable to PO No.	Operational Requirement
6385 6386 8532 8732 8733 9963 20917	A. The APC Baghouse shall operate whenever the abrasive blasting system is in operation. [Basis: SMAQMD Rule 201] B. Collected particulate matter shall be disposed of in a manner which prevents the entrainment of the material into the ambient air. [Basis: SMAQMD Rule 201] C. Discharge of collected particulate matter from the APC Baghouse/Filter shall be into a covered container and any transfer of this material shall be performed in such a manner as to prevent fugitive emissions. [Basis: SMAQMD Rule 201]
8532	D. The filter cloth shall be shaken upon completion of each day's operation. [Basis: SMAQMD Rule 201]
8732 8733 20917	E. The APC Baghouse shall have a pressure differential gauge with a readout easily accessible to operating personnel and shall be operated within the manufacturer's recommended pressure differential range. [Basis: SMAQMD Rule 201]

**V-K. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(7) ABRASIVE BLASTING UNIT
(continued)**

Applicable to PO No.	Operational Requirement
8732 8733	<p>F. The filter bags shall be maintained in good operating condition at all times, so that the pressure drop across them never exceeds 4 inches of water column. [Basis: SMAQMD Rule 201]</p> <p>G. The airflow permeability of the filter bags, as determined by ASTM Method D737-69, shall not exceed 30 ft³/min/ft². [Basis: SMAQMD Rule 201]</p> <p>H. The weight or type of filter bags used in the APC Baghouse shall not be changed without the approval of the SMAQMD Air Pollution Control Officer. [Basis: SMAQMD Rule 201]</p> <p>I. All ducting, conveyors, and related handling and storage equipment shall be maintained to prevent fugitive emissions. [Basis: SMAQMD Rule 201]</p>
9963	<p>J. The filter bags shall be maintained in good operating condition at all times, so that the pressure drop across them never exceeds 6 inches of water pressure. [Basis: SMAQMD Rule 201]</p>

5. The amount of abrasive blasting material used for the confined abrasive blasting operation shall not exceed the following limit.
[Basis: SMAQMD Rule 202]

PO No.	Abrasive Material Type	Maximum Allowable Usage lb/quarter
20917	All types	56,250

**V-K. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(7) ABRASIVE BLASTING UNIT
(continued)**

RECORD KEEPING REQUIREMENTS

6. The following records shall be continuously maintained on site for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly records shall be made available within 30 days following the end of the reporting period.

[Basis: SMAQMD Rule 202]

PO No.	Frequency	Information To Be Recorded
20917	At all times	A. Abrasive material data sheet.
	Quarterly	B. Total abrasive material used. (lb /quarter).

**V-L. EQUIPMENT
SPECIFIC
REQUIREMENTS**

(7) DRY MATERIAL GRINDING SYSTEM

A. EQUIPMENT DESCRIPTION: The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
157	<p>Air Pollution Control System:</p> <p>A. Rotoclone No.1, American Air Filter, Wet Dynamic Type, Model W, 20 hp</p> <p>B. Exhaust System Venting Grinding Processes of PO 1401</p>	01103
158	<p>Air Pollution Control System:</p> <p>A. Rotoclone No.2, American Air Filter, Wet Dynamic Type, Model W, 20 hp</p> <p>B. Exhaust System Venting Grinding Processes of PO 1401 and 7608</p>	01103
1401	<p>The grinding system is used to grind various types of oxidizers. The grinding system is vented through a wet collector air pollution control system (PO 157 and 158) located on the rooftop. The grinding system is operated remotely.</p> <p>Dry Material Grinding System consisting of:</p> <p>A. Microatomizer process:</p> <ol style="list-style-type: none"> 1. Conveying air blower-001, 220 cfm, 15 hp 2. Tote bin-001, 74 cu ft 3. Feeder valve-001, 0.5 hp 4. Conveying air blower-004, 220 cfm, 15 hp 5. Tote bin-004, 74 cu ft 6. Feeder valve-004, 0.5 hp 7. Feed bin-004, 78 cu ft , discharging to Microatomizer w/Pulsaire baghouse, 63 sq ft filter cloth area, vented to Rotoclone No.1 (PO No. 157) via blower-004, 500 cfm, 2.0 hp 8. Microatomizer, No. 8, 100 hp 9. Product bin-006, 100 cu ft, w/Pulsaire baghouse, 914 sq ft of cloth area, vented to Rotoclone No. 1 (PO No. 157) 	01103

**V-L. EQUIPMENT
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REQUIREMENTS**

**(7) DRY MATERIAL GRINDING SYSTEM
(continued)**

PO No.	Equipment Description	Location/ Building
	<p>via blower-006, 6520 cfm, 30 hp</p> <p>10. Bin activator-002, 2 hp</p> <p>11. Feeder valve-008, 1.0 hp, discharge to weigh station No. 1</p> <p>12. Product bin-010, 100 cu ft, w/Pulsaire baghouse, 914 sq ft of filter cloth area, vented to Rotoclone No. 2 (PO No. 158) via blower-010, 6520 cfm, 30 hp</p> <p>13. Bin activator-006, 2.0 hp</p> <p>14. Feeder valve-012, 1.0 hp, discharge to weigh station No. 2</p> <p>B. 2 DH Micropulverizer process:</p> <p>1. Conveying air blower-001, 220 cfm, 15 hp</p> <p>2. Tote bin-001, 74 cu ft</p> <p>3. Feeder valve-001, 0.5 hp</p> <p>4. Conveying air blower-004, 220 cfm, 15 hp</p> <p>5. Tote bin-004, 74 cu ft</p> <p>6. Feeder valve-004, 0.5 hp</p> <p>7. Feed bin-002, 78 cu ft, discharging to 2 DH Micropulverizer w/ Pulsaire baghouse, 63 sq ft filter cloth area, vented to Rotoclone No. 1 (PO No. 157) via blower-002, 500 cfm, 2.0 hp</p> <p>8. 2DH Micropulverizer, MP-002, 15 hp</p> <p>9. Feeder valve-006, 0.5 hp</p> <p>10. Conveying air blower-006, 110 cfm, 10 hp</p> <p>11. Product bin-005, 100 cu ft, discharging to 2DH Micropulverizer w/Pulsaire baghouse, 63 sq ft of cloth area, vented to Rotoclone No. 1 (PO No. 157) via blower-005, 150 cfm, 0.5 hp</p> <p>12. Bin activator-001, 2 hp</p> <p>13. Feeder valve-007, 1.0 hp, discharge to weigh station No. 1</p> <p>C. Grinder Bypass Process</p> <p>1. Conveying air blower-002, 220 cfm, 15 hp</p> <p>2. Tote bin-002, 74 cu ft</p> <p>3. Feeder valve-002, 0.5 hp</p> <p>4. Product bin-007, 100 cu ft, w/Pulsaire baghouse, 63 sq ft filter cloth area, vented to Rotoclone No. 1 (PO No. 157) via blower-002, 235 cfm, 0.75 hp</p>	

**V-L. EQUIPMENT
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**(7) DRY MATERIAL GRINDING SYSTEM
(continued)**

PO No.	Equipment Description	Location/ Building
	5. Bin activator-003, 2.0 hp 6. Feeder valve-009, 1.0 hp, discharge to weigh station No. 1.	
1402	Auxiliary Air Pollution Control System for Raymond Mill: A. Cyclone B. Baghouse, 140 sq ft filter cloth area, venting inside grind room No. 2	01103
7104	The RDX/HMX grinding system is used to grind various types of oxidizers. The system is operated remotely. Dry Material Grinding System consisting of: A. Feeder hopper, 0.5 hp B. Grinding mill, driven by compressed air, vented to Air C. Pollution Control System, PO 17904 D. 100 hp air compressor E. 75 hp air compressor	01024
7608	Oxidizer Grinding System consisting of: A. Raymond Mill Process: 1. Conveying air blower-002, 220 cfm, 15 hp 2. Tote bin-002, 74 cu ft 3. Feeder valve-002, 0.5 hp 4. Conveying air blower-003, 220 cfm, 15 hp 5. Tote bin-003, 74 cu ft 6. Feeder valve-003, 0.5 hp 7. Feed bin-003, 78 cu ft, discharging to Raymond Mill with Pulsaire baghouse, 63 sq ft cloth area vented to Rotoclone No. 2 (PO No. 158) via blower-003, 500 cfm, 2.0 hp 8. Raymond Mill, No. 18, 25 hp 7. Product bin-008, 100 cu ft, w/Pulsaire baghouse, 262 sq ft filter cloth area, vented to Rotoclone No. 2 (PO No.	01103

**V-L. EQUIPMENT
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REQUIREMENTS**

**(7) DRY MATERIAL GRINDING SYSTEM
(continued)**

PO No.	Equipment Description	Location/ Building
	<p>158) via blower-002, 235 cfm, 0.75 hp</p> <p>8. Bin activator-004, 2.0 hp</p> <p>9. Feeder valve-010, 1.0 hp, discharge to weigh station No. 2.</p> <p>B. 2 DH Micropulverizer Process:</p> <p>1. Conveying air blower-004, 220 cfm, 15 hp</p> <p>2. Tote bin-004, 74 cu ft</p> <p>3. Feeder valve-004, 0.5 hp</p> <p>4. Feed bin-001, 78 cu ft, discharging to 2 DH Micropulverizer, with Pulsaire baghouse, 63 sq ft cloth area vented to Rotoclone No. 2 (PO No. 158) via blower-001, 750 cfm, 0.75 hp</p> <p>5. 2DH Micropulverizer, MP-001, 15 hp</p> <p>6. Feeder valve-005, 0.5 hp</p> <p>7. Conveying air blower-005, 110 cfm, 10 hp</p> <p>8. Product bin-009, 100 cu ft, discharging to 2DH Micropulverizer w/Pulsaire baghouse, 63 sq ft of cloth area, vented to Rotoclone No. 2 (PO No. 158) via blower-009, 150 cfm, 0.5 hp</p> <p>9. Bin activator-005, 2 hp</p> <p>10. Feeder valve-011, 1.0 hp discharge to weigh station No. 2.</p> <p>11. Sample drum, 30 gallons, with dust sock</p> <p>C. Grinder Bypass Process</p> <p>1. Conveying air blower-002, 220 cfm, 15 hp</p> <p>2. Tote bin-002, 74 cu ft</p> <p>3. Feeder valve-002, 0.5 hp</p> <p>4. Conveying air blower-003, 220 cfm, 15 hp</p> <p>5. Tote bin-003, 74 cu ft</p> <p>6. Feeder valve-003, 0.5 hp</p> <p>7. Product bin-011, 100 cu ft, w/Pulsaire baghouse, 63 sq ft filter cloth area, vented to Rotoclone No. 2 (PO No. 158) via blower-011, 5500 cfm, 0.75 hp</p> <p>8. Bin activator-007, 2.0 hp</p> <p>9. Feeder valve-013, 1.0 hp, discharge to weigh station no. 2.</p>	

**V-L. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(7) DRY MATERIAL GRINDING SYSTEM
(continued)**

PO No.	Equipment Description	Location/ Building
17904	<p>Air Pollution Control System venting RDX/HMX Grinding System, PO 7104, consisting of:</p> <p>A. Primary Baghouse 1: Make: Mikro-Pulsaire Model: 25S-B-30C Cloth Area: 235 ft² Flow: 400 CFM</p> <p>B. Primary Baghouse 2: Make: Mikro-Pulsaire Model: 122-DC-3 Cloth Area: 42 ft² Flow: 400 CFM</p> <p>C. Secondary Baghouse 1: Make: Unknown Model: Unknown Cloth Area: 8.1 ft² Flow: 400 CFM</p> <p>D. Secondary Baghouse 2: Make: Aerojet Model: NA Cloth Area: 8.5 ft² Flow: 400 CFM</p>	01024

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified in this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. Each grinding process shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.

[Basis: SMAQMD Rule 401]

**V-L. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(7) DRY MATERIAL GRINDING SYSTEM
(continued)**

-
2. Particulate matter emissions from these emission units shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot.
[Basis: SMAQMD Rule 404]

EQUIPMENT OPERATION REQUIREMENTS

3. For PO 7104 only -
The grinding process shall be vented to the primary APC Baghouses Nos. 1 and 2, PO 17904, at all times.
[Basis: SMAQMD Rule 201]
4. For PO 17904 only -
The primary APC baghouses shall be vented to the secondary APC Baghouses Nos. 1 and 2, PO 17904, whenever the grinding process, PO 7104, is operating.
[Basis: SMAQMD Rule 201]

RECORD KEEPING REQUIREMENTS

None

**V-M. EQUIPMENT
SPECIFIC
REQUIREMENTS**

(2) ROCKET MOTOR DISSECTION PROCESS

A. EQUIPMENT DESCRIPTION: The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
22029	Rocket Motor Dissection Process consisting of: A. Abrasive Blasting Equipment Make: Clemco Model: 3661 Serial No.: 43514 Capacity: 1000 lb B. Compressor driven by a less than 50 hp gasoline IC engine C. Chamber rotation stand, 1hp D. Abrasive: Black Beauty, Grade Fine, certified under applicable CARB Executive Order	46004
22040	Rocket Motor Dissection Process consisting of: A. Abrasive Blasting Equipment Make: Clemco Model: SCFW-2452 Capacity: 6 ft3 B. Compressor: Make: Ingersol Rand Driven by: 75 hp electric motor C. Chamber rotation stand, 1hp Chamber table and shield D. Abrasive: Various Black Beauty abrasives, grade fine, certified under applicable CARB Executive Order	46011

**V-M. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(2) ROCKET MOTOR DISSECTION PROCESS
(continued)**

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified in this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. Each Rocket Motor Dissection Process shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.

[Basis: SMAQMD Rule 401]

2. Emissions from each Rocket Motor Dissection Process shall not exceed the following limits.

[Basis: SMAQMD Rule 202]

PO No.	Emission Factor (A) lb PM10/1000 lb of abrasive material	Maximum Allowable PM10 Emissions (B)	
		lb/day	lb/quarter
22029	13	15.6	281
22040	13	15.3	468

(A) The PM10 emission factor is from U.S. EPA AP42, Compilation of Air Pollutant Emission Factors, Table 13.2.6-1 (9/97).

(B) Maximum allowable emissions are based on allowable daily and quarterly abrasive material usage.

Gasoline IC engine associated with Rocket Motor Dissection Process PO 22029

Pollutant	Emission Factor (A) g/hp-hour	Maximum Allowable Emissions (B) lb/quarter
ROC	9.79	139
NOx	4.99	71
SO2	0.1645	2
PM10	0.327	5
CO	3.16	45

(A) Emission factors are from U.S. EPA AP-42, Table 3.3-1, Emission Factors for Uncontrolled Gasoline and Diesel Industrial Engines (10/96).

(B) Maximum allowable emissions are based on 50 hp, and operating for 6 hours/day

**V-M. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(2) ROCKET MOTOR DISSECTION PROCESS
(continued)**

and 128.7 hours/quarter.

EQUIPMENT OPERATION REQUIREMENTS

3. The amount of abrasive material used in each Rocket Motor Dissection Process shall not exceed the following.

[Basis: SMAQMD Rule 202]

PO No.	Maximum Allowable Abrasive Material Usage	
	lb/day	lb/quarter
22029	1,200	21,600
22040	1,175	36,000

4. The gasoline IC engine powering the Rocket Motor Dissection Process, PO 22029, shall not exceed the following hours of operation limit.

[Basis: SMAQMD Rule 202]

Equipment	Maximum Allowable Operation hours/quarter
Gasoline IC engine, ≤ 50 hp	128.7

5. Each Rocket Motor Dissection Process, when conducted outside a permanent building or structure, shall not discharge into the atmosphere any air contaminant which constitutes a public nuisance.

[Basis: SMAQMD Rule 402. This condition is not federally enforceable]

6. Each Rocket Motor Dissection Process shall only use abrasive listed on the CARB list of certified abrasives for permissible dry outdoor blasting.

[Basis: SMAQMD Rule 202]

7. Used CARB certified abrasive from the Rocket Motor Dissection Process shall not be considered CARB certified for re-use unless the abrasive conforms to its original cut-point for fineness.

[Basis: SMAQMD Rule 202]

RECORD KEEPING REQUIREMENTS

8. The following records shall be continuously maintained on site for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly records shall be made available within 30 days following the

**V-M. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(2) ROCKET MOTOR DISSECTION PROCESS
(continued)**

end of the reporting period.
[Basis: SMAQMD Rule 202]

Frequency	Information to be Available
At all times	A. For each abrasive material used or on site: i. Abrasive Material Data Sheet ii. CARB Certification for the abrasive material used
Daily	B. Total amount of abrasive material used. (lb/day)
Quarterly	C. Total amount of abrasive material used. (lb/quarter) D. Total hours of IC engine operation. (hours/quarter)

**V-M. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(2) ROCKET MOTOR DISSECTION PROCESS
(continued)**

EMISSION REDUCTION CREDIT (ERC) REQUIREMENTS

9. Emission Reduction Credit (ERC) certificates, as indicated, are required and have been surrendered to the SMAQMD Air Pollution Control Officer.

[Also indicated is the value of the ERC certificate emissions after applying the applicable Offset Ratio. This value is the SMAQMD Rule 202 required emission offset.]

[Basis: SMAQMD Rule 202]

PO 22029	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
PM10 SMAQMD ERC C09-1015 Loan expires 10-01-2019	281	281	281	281	1.0	281	281	281	281

PO 22040	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
PM10 SMAQMD ERC C09-1014 Loan expires 10-01-2029	468	468	468	468	1.0	468	468	468	468

**V-N. EQUIPMENT
 SPECIFIC
 REQUIREMENTS**

(12) PARTICULATE COLLECTION SYSTEM - DRY

A. EQUIPMENT DESCRIPTION: The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
277	<p>Air Pollution Control System consisting of:</p> <p>Prefilter: Cyclone</p> <p>Baghouse:</p> <p>Make: Pangborn Corp</p> <p>Model: 223CK-1</p> <p>Type: Shaker cleaning</p> <p>Filter Area: 1000 ft²</p> <p>Blower: 7.8 hp, 3,000 cfm</p> <p>Venting: Carpenter shop (wood shavings and sawdust)</p>	20022
7455	<p>Air Pollution Control System consisting of:</p> <p>(4) Baghouses:</p> <p>Make: American Air Filter</p> <p>Model: 105-1003052-17</p> <p>Type: Pre-Filter/Absolute Filter, Astro Seal housing</p> <p>Filter Area: not available</p> <p>Blower: (4) 1.5 hp blowers, 2750 cfm total</p> <p>Venting: Submix/Premix/Small Dispensing area</p>	01112
7456	<p>Air Pollution Control System consisting of:</p> <p>Baghouse:</p> <p>Make: American Air Filter</p> <p>Model: 105-1003052-17</p> <p>Type: Pre-Filter/Absolute Filter, Astro Seal housing</p> <p>Filter Area: not available</p> <p>Blower: 2 hp, 700 cfm</p> <p>Venting: Submix/Premix Area</p>	01112

**V-N. EQUIPMENT
 SPECIFIC
 REQUIREMENTS**

**(12) PARTICULATE COLLECTION SYSTEM - DRY
 (continued)**

PO No.	Equipment Description	Location/ Building
8588	<p>Air Pollution Control System consisting of:</p> <p>Baghouse: Make: Nilfisk Model: GS-83 Type: Portable Filter Area: 15.4 ft² and HEPA filter</p> <p>Blower: 1.5 hp, 208 cfm Venting: Production contingencies, short term projects and asbestos cleanups</p>	20004 and various locations
15125	<p>Air Pollution Control System consisting of:</p> <p>Baghouse: Make: Ross Cook Model: 3HZV6-HE2-XP Type: Pulse cleaning Filter Area: 564 ft² and 112 ft² HEPA filter</p> <p>Blower: 40 hp, 1,830 cfm Venting: Machining processes</p>	20004
21653	<p>Air Pollution Control System consisting of:</p> <p>Prefilter: Cyclone</p> <p>(2) Baghouses: Make: Ross Cook Model: 2HZV16-HE32 Type: Cartridge type, pulse cleaning Filter Area: 1,536 ft² and 2,179 ft² HEPA filter</p> <p>Blower: 100 hp, 5,000 cfm Venting: NC room machining process</p>	20004

**V-N. EQUIPMENT
 SPECIFIC
 REQUIREMENTS**

**(12) PARTICULATE COLLECTION SYSTEM - DRY
 (continued)**

PO No.	Equipment Description	Location/ Building
21766	<p>Air Pollution Control System consisting of:</p> <p>Baghouse: Make: Donaldson Torit Model: DFO 2-8 Type: Cartridge type, pulse cleaning Filter Area: 1,520 ft²</p> <p>Blower: 10 hp, 5,000 cfm Venting: Machining operations</p>	20004
21973	<p>Air Pollution Control System consisting of:</p> <p>Baghouse: Make: Arrestall Model: AR-45 Type: Shaker cleaning Filter Area: 264 ft²</p> <p>Blower: 7.5 hp, 2,000 cfm Venting: Rocket motor dissection and machining</p>	01150
22170	<p>Air Pollution Control System consisting of:</p> <p>Baghouse: Make: Sternvent Co. Model: 36-10-720D Type: Pulse cleaning Filter Area: Based on type of filter media used - Cartridge: 720 ft² Double wall bags: 612 ft² Single wall bags: 414 ft²</p> <p>Blower: 20 hp, 5,300 cfm Venting: Machining operations in plastics lab</p>	20004

**V-N. EQUIPMENT
 SPECIFIC
 REQUIREMENTS**

**(12) PARTICULATE COLLECTION SYSTEM - DRY
 (continued)**

PO No.	Equipment Description	Location/ Building
22225	<p>Air Pollution Control System consisting of:</p> <p>Baghouse: Make: Torit Model: 124-7.5 Type: Shaker cleaning Filter Area: 400 ft²</p> <p>Blower: 15 hp, 2,900 cfm Venting: Machining processes</p>	20004
22438	<p>Air Pollution Control System consisting of:</p> <p>Baghouse: Make: Donaldson Torit Model: DFO 2-4 Type: Cartridge type, pulse cleaning Filter Area: 760 ft²</p> <p>Blower: 7.5 hp, 1,300 cfm Venting: Machining operations</p>	20004
22888	<p>Air Pollution Control System consisting of:</p> <p>Prefilter: Settling Chamber, 8'W x 8'L x 4'D, and drum housing for each lathe</p> <p>Baghouse: Make: Sternvent Model: CCP-100-10-2000 Type: Shaker cleaning Filter Area: 2000 ft²</p> <p>Blower: 20 hp, 5,000 cfm Venting: Monarch Missile Master lathe and the American Pacemaker lathe</p>	20004

**V-N. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(12) PARTICULATE COLLECTION SYSTEM - DRY
(continued)**

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified in this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

- Each emission unit shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.

[Basis: SMAQMD Rule 401]

- Particulate matter emissions from each emission unit shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot.

[Basis: SMAQMD Rule 404]

- PM10 emissions from the following emission units shall not exceed the stated emission concentration limit.

[Basis: SMAQMD Rule 202]

PO No.	Maximum Allowable PM10 Emission Concentration from the Air Pollution Control System
15125 21653	9 x 10 ⁻⁶ grains/dscf

- PM10 emissions from the following emissions unit shall not exceed the stated mass emission limit.

[Basis: SMAQMD Rule 202]

PO No.	Emission Factor (A) lb/mandrel	Maximum Allowable PM10 Emission (B)	
		lb/quarter	lb/year
22225	0.005	1	4

(A) Emission factor for PM10 is based on 5 lb of material machined from each mandrel and the manufacturer's reported PM10 control efficiency of 99.9%

(B) Maximum allowable emissions are based on the machining of 130 composite material mandrels per quarter and 520 composite material mandrels per year.

**V-N. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(12) PARTICULATE COLLECTION SYSTEM - DRY
(continued)**

5. PM10 emissions from the following emissions unit shall not exceed the stated mass emission limit.

[Basis: SMAQMD Rule 202]

PO No.	Emission Factor (A) lb/hour	Maximum Allowable PM10 Emission (B) lb/quarter
15125	0.00014	0.31

(A) Emission factor for PM10 is based on maximum PM10 concentration of 9×10^{-6} grains/dscf and maximum exhaust capacity of 1830 cfm.

(B) Based on 24 hours/day and 92 days/quarter.

6. PM10 emissions from the following emissions unit shall not exceed the stated mass emission limit.

[Basis: SMAQMD Rule 202]

PO No.	Emission Factor (A) lb/hour	Maximum Allowable PM10 Emission (B) lb/quarter
21653	0.000386	0.85

(A) Emission factor for PM10 is based on maximum PM10 concentration of 9×10^{-6} grains/dscf and maximum exhaust capacity of 5000 cfm.

(B) Based on 24 hours/day and 92 days/quarter.

7. PM10 emissions from the following emissions unit shall not exceed the stated mass emission limit.

[Basis: SMAQMD Rule 202]

PO No.	Emission Factor (A) lb/lb of material processed	Maximum Allowable PM10 Emission (B)	
		lb/day	lb/quarter
21766	0.009	0.045	4

(A) Based on baghouse control efficiency of 99.1%

(B) Maximum allowable emissions are based on processing a maximum of 5 lb of material/day and 92 day/quarter.

**V-N. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(12) PARTICULATE COLLECTION SYSTEM - DRY
(continued)**

8. PM10 emissions from the following emissions unit shall not exceed the stated mass emission limit.

[Basis: SMAQMD Rule 202]

PO No.	Emission Factor (A) lb/lb of material collected	Maximum Allowable PM10 Emission (B) lb/quarter
21973	0.005	1

(A) Based on baghouse control efficiency of 99.5%

(B) Maximum allowable emissions are based on collecting a maximum of 195 lb of material/quarter.

9. PM10 emissions from the following emissions unit shall not exceed the stated mass emission limit.

[Basis: SMAQMD Rule 202]

PO No.	Emission Factor (A) grains/ft ³	Maximum Allowable PM10 Emission (B) lb/quarter
22170	0.0018	204

(A) Emission factor is from the CARB study, *Fine Particle Emissions from Stationary and Miscellaneous Sources in the South Coast Air Basin*, KVB, 02/1979.

(B) Based on maximum exhaust flow rate of 5,000 ft³/minute, 24 hours/day and 92 days/quarter.

10. PM10 emissions from the following emissions unit shall not exceed the stated mass emission limit.

[Basis: SMAQMD Rule 202]

PO No.	Emission Factor (A) grains/ft ³	Maximum Allowable PM10 Emission (B) lb/quarter
22225	0.0018	9

(A) Emission factor is from the CARB study, *Fine Particle Emissions from Stationary and Miscellaneous Sources in the South Coast Air Basin*, KVB, 02/1979.

(B) Based on maximum exhaust flow rate of 2,900 ft³/minute, 24 hours/day and the machining of 130 mandrels/quarter at 1.5 hours of machining/mandrel.

**V-N. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(12) PARTICULATE COLLECTION SYSTEM - DRY
(continued)**

11. PM10 emissions from the following emissions unit shall not exceed the stated mass emission limit.

[Basis: SMAQMD Rule 202]

PO No.	Emission Factor grains/ft3	Maximum Allowable PM10 Emission (A) lb/quarter
22438	0.002	49

(A) Based on maximum exhaust flow rate of 1,300 ft3/minute, 24 hours/day and 92 days/quarter.

12. PM10 emissions from the following emissions unit shall not exceed the stated mass emission limit.

[Basis: SMAQMD Rule 202]

PO No.	Emission Factor grains/ft3	Maximum Allowable PM10 Emission (A) lb/quarter		
		lb/day	lb/quarter	lb/year
22888	0.001	1.0	95	378

(A) Based on a baghouse control efficiency of 99%.

(B) Based on maximum exhaust flow rate of 5,000 ft3/minute, 24 hours/day and 92 days/quarter

EQUIPMENT OPERATION REQUIREMENTS

13. The processing of asbestos-containing materials and gas streams is limited as follows.

[Basis: SMAQMD Rule 902]

<u>May process</u> asbestos-containing materials and gas streams	<u>Shall not process</u> asbestos-containing materials and gas streams
PO No.	PO No.
7455	277
7546	15125
8588	21766
21653	21973
22170	22225
	22438
	22888

**V-N. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(12) PARTICULATE COLLECTION SYSTEM - DRY
(continued)**

14. Asbestos-containing waste material shall be disposed of in accordance with the requirements of SMAQMD Rule 902 - Asbestos Section 303.

[Basis: SMAQMD Rule 902]

15. The following emission units shall meet the stated operation requirement.

[Basis: SMAQMD Rule 902]

PO No.	Operation Requirement
7455 7546 8588 21653 22170	A. Shall be equipped with a HEPA filter certified by the manufacturer to be at least 99.97% efficient for collecting 0.3 micron particles.
8588	B. The HEPA filters attached to the Nilfisk dust collector shall be in use whenever venting asbestos-containing material. C. The permittee shall be able to inform representatives of the SMAQMD Air Pollution Control Officer of the location of the Nilfisk dust collector when requested.
21653	D. The asbestos machining process associated with PO 21653 shall not process more than 4 nozzles/year.
22170	E. When processing asbestos containing materials, this air pollution control system shall comply with SMAQMD Rule 902 Asbestos. F. The air pollution control system shall remain in compliance with SMAQMD Rule 902 Asbestos until the emission unit has been decontaminated of asbestos.

**V-N. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(12) PARTICULATE COLLECTION SYSTEM - DRY
(continued)**

16. The following emission units shall meet the stated operation requirement.

[Basis: SMAQMD Rule 201]

PO No.	Operation Requirement
15125 21653 21766 21973 22170 22225 22438 22888	<p>A. Shall be equipped with a pressure differential gauge to indicate the pressure drop across the filter bags.</p> <p>B. The pressure differential gauge shall be properly maintained and easily accessible to the operator.</p> <p>C. The manufacturer's recommended pressure differential range shall be posted next to the gauge. The dust collector shall be operated within the recommended range.</p> <p>D. The dust collector cleaning frequency and duration shall follow the manufacturer's recommendations.</p> <p>E. The dust collector discharge of collected material shall be into a covered container and any transfer of this material shall be performed in such a manner as to prevent fugitive emissions.</p>

21766 21973	F. The air pollution control system shall be in operation at all times when the associated machining process is operating.
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17. The following emission units shall meet the stated operation requirement.

[Basis: SMAQMD Rule 201]

PO No.	A. Maximum Amount of Material That Can Be Removed by the Machining Process Associated With PO 21766 lb of material/day
21766	5

PO No.	B. Maximum Amount of Material Collected by the Baghouse from the Dissection and Machining of Rocket Motors lb/quarter
21973	195

**V-N. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(12) PARTICULATE COLLECTION SYSTEM - DRY
(continued)**

PO No.	C. Maximum Number of Composite Material Mandrels That Can Be Machined mandrels/quarter
22225	130

RECORD KEEPING REQUIREMENTS

18. The following record shall be continuously maintained on site for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly and yearly records shall be made available within 30 days following the end of the reporting period.

[Basis: SMAQMD Rule 201 and 202]

PO No.	Frequency	Information to be Recorded
21653	Yearly	A. Total number of asbestos containing nozzles processed. (nozzles/year)
21766	Daily	B. Total amount of material removed during the machining process. (lb/day)
21973	Quarterly	C. Total amount of material collected by the baghouse from the dissection and machining of rocket motors (lb/quarter)
22170	When operated	D. Date E. Category of materials that are vented to the baghouse - either asbestos containing or non-asbestos containing
	When decontaminated of asbestos	F. Date

**V-N. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(12) PARTICULATE COLLECTION SYSTEM - DRY
(continued)**

PO No.	Frequency	Information to be Recorded
22225	Quarterly	G. Number of hours of operation (hours/quarter)

EMISSION REDUCTION CREDIT REQUIREMENTS

19. Emission Reduction Credit (ERC) certificates, as indicated, are required and have been surrendered to the SMAQMD Air Pollution Control Officer.

[Also indicated is the value of the ERC certificate emissions after applying the applicable Offset Ratio. This value is the SMAQMD Rule 202 required emission offset.]

[Basis: SMAQMD Rule 202]

PO 21766	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
PM10 SMAQMD ERC C09-1011 Loan expires 07-01-2019	4	4	4	4	1.0	4	4	4	4

PO 21973	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
PM10 SMAQMD ERC C09-1018 Loan expires 10-01-2029	1	1	1	1	1.0	1	1	1	1

**V-N. EQUIPMENT
 SPECIFIC
 REQUIREMENTS**

**(12) PARTICULATE COLLECTION SYSTEM - DRY
 (continued)**

PO 22438	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
PM10 SMAQMD ERC C10-1006 Loan expires 07-01-2030	49	49	49	49	1.0	49	49	49	49

**V-O. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PARTICULATE COLLECTION SYSTEM - WET
SCRUBBER**

- A. EQUIPMENT DESCRIPTION:** The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
165	Make: Schmieg Model: STM-100 Type: Water Scrubber Size: 4'5" W x 4'5" L x 10' H, with a 15 hp pump Blower: 3400 CFM Serving: Unit used to remotely machine propellant samples for testing (Slitter/Saw).	05030

- B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS:** The requirements specified in this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. The emissions unit shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.

[Basis: SMAQMD Rule 401]

2. Particulate matter emissions from this emissions unit shall not exceed in concentration, at the point of discharge, 0.1 grains per dry standard cubic foot.

[Basis: SMAQMD Rule 404]

3. PM10 emissions from the emissions unit shall not exceed the following.

[Basis: SMAQMD Rule 201]

PO No.	Emission Factor (A) lb/hr	Maximum Allowable PM10 Emissions (B)	
		lb/quarter	lb/year
165	0.7	18.2	72.8

(A) Emission factor for PM10 is based on original permit application.

**V-O. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PARTICULATE COLLECTION SYSTEM - WET
SCRUBBER
(continued)**

(B) Maximum allowable emissions are based on 7 hours/day, 2 days/week and 13 weeks/quarter.

RECORD KEEPING REQUIREMENTS

4. The following record shall be continuously maintained on site for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request.

[Basis: SMAQMD Rule 201]

Frequency	Information to be Recorded
Daily (when process is operating)	A. Date when system operated. B. Duration of operation. (hr/day)

**V-P. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(4) AEROSPACE COATING OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)**

A. EQUIPMENT DESCRIPTION: The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
150	Coating Booth Mfg.: Devilbliss Serial No.: 22050 Filter type: Dry filter Dimensions: 12'W x 10'H x 7'6"D Spray gun type: HVLP Exhaust fan: 5 hp	01085
8444	Coating Booth Mfg.: Viking Model No.: 1212 Filter type: Dry filter Dimensions: 12'W x 12'H x 8'D Spray gun type: HVLP Exhaust fan: 7.5 hp	20004
17204	Coating Booth Mfg.: Binks Model No.: PF-A-12-10T Filter type: Dry filter Dimensions: 12'W x 10'-6"H x 11'-2"D Spray gun type: HVLP Exhaust fan: 5 hp	01048
17205	Coating Booth Mfg.: Binks Model No.: PFA-12-10T Filter type: Dry filter Dimensions: 12'W x 10'-6"H x 11'-2"D Spray gun type: HVLP Exhaust fan: 5 hp	01085

**V-P. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(4) AEROSPACE COATING OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified in this section are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. The equipment shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.

[Basis: SMAQMD Rule 401]

2. ROC emissions from the coating and/or cleaning processes associated with the stated emission unit shall not exceed the following limits.

[Basis: SMAQMD Rule 202]

PO No.	Emission Factor lb ROC/gallon	Maximum Allowable Emissions (B) lbs/quarter
17204	(A)	3,652
17205	(A)	3,652

(A) Emission Factor is specific to each aerospace coating and cleaning process material used and is based on lb ROC/gallon of material used.

(B) Based on the permittee's requested maximum allowable emissions.

EQUIPMENT OPERATION REQUIREMENTS

3. The permittee shall comply with all applicable requirements of 40 CFR 63 Subparts A and GG.

[Basis: 40 CFR 63.741(b)]

Coating Application Operation

4. The permittee shall conduct the handling and transfer of primer and topcoats to or from containers, tanks, vats, vessels and piping systems in such a manner that minimizes spills.

[Basis: 40 CFR 63.745(b)]

**V-P. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(4) AEROSPACE COATING OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

5. The following coatings, when applied to any aerospace component, shall not have a VOC content or a HAP content that exceeds the following limits.

[Basis: 40 CFR 63.745(c) and e(1) for HAP content and SMAQMD Rule 456 for VOC content]

Coating category	Maximum <u>VOC</u> content as applied excluding water and exempt compounds grams/liter (lb/gal)	Maximum <u>HAP</u> content as applied excluding water and exempt compounds grams/liter (lb/gal)
Ablative	600 (5.0)	NA
Adhesive	600 (5.0)	NA
Adhesive bonding agent	780 (6.5)	NA
Conformal	600 (5.0)	NA
Electrostatic discharge	612 (5.1)	NA
Extreme performance	750 (6.3)	NA
Fire resistant/retardant	600 (5.0)	NA
Flight test	420 (3.5)	NA
Fuel tank	650 (5.4)	NA
High temperature	420 (3.5)	NA
Maskants: Type I - Chemical milling Type II - Chemical milling All others	622 (5.2) 160 (1.3) 850 (7.1)	NA NA NA
Mold release	762 (6.4)	NA
Part marking	850 (7.1)	NA
Pretreatment wash primer	780 (6.5)	NA
Primer	350 (2.9)	350 (2.9)
Radiation effect	600 (5.0)	
Rain erosion resistant: Fluoroelastomer All other	800 (6.7) 600 (5.0)	NA NA
Sealant	600 (5.0)	NA

**V-P. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(4) AEROSPACE COATING OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

Coating category	Maximum <u>VOC</u> content as applied excluding water and exempt compounds grams/liter (lb/gal)	Maximum <u>HAP</u> content as applied excluding water and exempt compounds grams/liter (lb/gal)
Sealant adhesion promoter	750 (6.3)	NA
Self-priming topcoat	420 (3.5)	420 (3.5)
Solid film lubricant	880 (7.3)	NA
Space vehicle: Electrostatic discharge	880 (7.3)	NA
All other	1000 (8.3)	NA
Temporary protective	250 (2.1)	NA
Thermal expansion release	762 (6.4)	NA
Thermocontrol	600 (5.0)	NA
Topcoat	420 (3.5)	420 (3.5)
Wet fastener installation	620 (5.2)	NA

6. Coatings shall be applied using only the following application methods.
- A. Hand application equipment, such as brush, roller or cotton-tipped swab.
 - B. Dip coating.
 - C. Flow coating.
 - D. Roll coating.
 - E. Electrodeposition coating.
 - F. Electrostatic spray application.
 - G. High-volume low-pressure (HVLP) spraying.
 - H. Low-volume low-pressure (LVLP) spraying.
 - I. Any other equivalent method which has been approved in writing by the SMAQMD Air Pollution Control Officer and the U.S. Environmental Protection Agency.
- [Basis: 40 CFR 63.745(f) and SMAQMD Rule 456]**

**V-P. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(4) AEROSPACE COATING OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

7. All application devices used to apply primers or topcoats (including self-priming topcoats) shall be operated according to company procedures, local specified operating procedures, and/or the manufacturer's specifications, whichever is most stringent, at all times.

[Basis: 40 CFR 63.745(f)(2)]

8. The permittee shall not apply, by spray application, any primer and/or top coat containing inorganic HAPs, as defined in 40 CFR 63.742.

[Basis: Limiting the use to primers and topcoats that do not contain inorganic HAPs in order to not be subject to the particulate control requirements of 40 CFR 63.745(g)]

Cleaning Operations

9. The following materials, when applied to any aerospace component for the stated purpose, shall comply with either the stated VOC content or composite partial vapor pressure limitation.

[Basis: SMAQMD Rule 456 Section 302 and 304.7]

Material	Maximum VOC Content as applied	OR	Maximum VOC Composite Partial Vapor Pressure
	Grams/liter (lb/gal)		mm Hg (psia) at 68°F (20°C)
Coating remover (stripper)	300 (2.5)		9.5 (0.18)
Surface preparation or cleaning	200 (1.67)		45 (0.87)

10. Cleaning solvents shall be handled and transferred to or from enclosed systems, vats, waste containers and other cleaning operation equipment that holds or stores fresh or spent cleaning solvents in such a manner that minimizes spills.

[Basis: 40 CFR 63.744(a)(3)]

11. Hand-wipe cleaning operations (excluding cleaning of application equipment that shall be performed in accordance with Condition No. 12 of this section) shall use cleaning solvents that meet one of the requirements specified below.

- A. Aqueous solvents: Cleaning solvents in which water is the primary ingredient ($\geq 80\%$ of cleaning solvent solution as applied must be water). Detergents, surfactants, and bioenzymes mixtures and nutrients may be combined with the water along with a variety of additives, such as organic solvents (e.g. high boiling point alcohols), builders, saponifiers, inhibitors, emulsifiers, pH buffers, and antifoaming agents.

**V-P. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(4) AEROSPACE COATING OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

Aqueous solutions must have a flash point greater than 93 °C (200 °F) as reported by the manufacturer, and the solution must be miscible with water.

B. Hydrocarbon-based solvents: Cleaners that are composed of photochemically reactive hydrocarbons and/or oxygenated hydrocarbons and have a maximum vapor pressure of 7 mm Hg at 20 °C (3.75 in. H₂O and 68 °F). These cleaners also contain no HAPS.

C. Other solvents: Must have a composite vapor pressure of 45 mm Hg (24.1 in H₂O) or less at 20 °C (68 °F)

[Basis: 40 CFR 63.744(b)]

12. A person shall not use VOC-containing materials for the cleaning of application equipment used in coating operations unless the VOC content of the material used does not exceed 25 grams/liter (0.21 pounds per gallon). The VOC content shall be determined pursuant to SMAQMD Rule 456 Section 502.1.

[Basis: SMAQMD Rule 456 Section 304.5]

A. The requirements of SMAQMD Rule 456 Section 304.5 shall not apply to the cleaning of rocket motor lining process application equipment if the application equipment is cleaned in an enclosed gun cleaner.

[Basis: SMAQMD Rule 456 Section 114]

Material Type	Maximum Allowable VOC Content grams/liter (lb/gal)
VOC-containing materials for the cleaning of application equipment	25 (0.21)

Depaint Process

13. The permittee shall not depaint more than six (6) completed aerospace vehicles in a calendar year.

[Basis: Limiting the use to the exemption level stated in 40 CFR 63.746(a) in order for the depainting process to not be subject to the depaint control requirements of 40 CFR 63.746]

**V-P. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(4) AEROSPACE COATING OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

Handling and Storage of Waste

14. Cleaning solvent-laden cloth, paper, or any other absorbent applicators used for cleaning shall be placed in closed containers. These containers shall be of such design so as to contain the vapors of the cleaning solvents and shall be kept closed at all times except when depositing or removing materials from the container.

[Basis: 40 CFR 63.744(a)(1) and SMAQMD Rule 456 Section 304]

15. VOC containing materials shall be stored in closed containers when not in use.

[Basis: 40 CFR 63.744(a)(2) and SMAQMD Rule 456 Section 304]

16. Except as provided in 40 CFR 63.741(e), HAP-containing waste shall be handled and transferred to and from containers, tanks, vats, vessels and piping systems in such a manner that minimizes spills.

[Basis: 40 CFR 63.748]

MONITORING AND RECORD KEEPING REQUIREMENTS

17. The permittee shall visually inspect the seals and all other potential sources of leaks associated with each enclosed gun spray cleaner system at least once per month. Each inspection shall occur while the system is in operation.

[Basis: 40 CFR 63.751(a)]

- A. An alternative monitoring method may be approved by the U.S. EPA Administrator pursuant to 40 CFR 63.751(e).

[Basis: 40 CFR 63.751(e)]

18. The following records shall be continuously maintained onsite for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Monthly and quarterly records shall be made available for inspection within 30 days following the end of the reporting period.

[Basis: SMAQMD Rule 456 Section 501]

Frequency	Information to be Recorded
At all times	A. A list of currently used coatings, coating removers (strippers), surface preparation and cleaning materials, application equipment cleanup materials and other VOC containing materials including, but not limited to thinners, reducers, hardeners, retarders, catalysts, etc. including the following information.

**V-P. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(4) AEROSPACE COATING OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

Frequency	Information to be Recorded
	<ul style="list-style-type: none"> i. The material type by name/code/manufacturer and the appropriate category as designated by the coating categories in SMAQMD Rule 456 Sections 301, 302 and 304 or "exempt" as specified by SMAQMD Rule 456 Sections 112 and 113, as applicable. ii. The actual VOC content of the material, as applied, as determined pursuant to SMAQMD Rule 456 Section 502.1. The VOC composite partial vapor pressure for coating removers (strippers), surface preparation and cleaning material and application equipment cleanup material. VOC content as provided by the manufacturer pursuant to SMAQMD Rule 456 Section 403 is acceptable, if following the manufacturer's recommended mix ratio. The VOC composite partial pressure may be calculated using product formulation data or may be determined using the test method in SMAQMD Rule 456 Section 502.6. iii. The actual mixing ratio used for the material, as applied. iv. Identification of each material type exceeding the VOC limits specified in SMAQMD Rule 456 Sections 301 and 302 or the VOC composite partial vapor pressure limits specified in SMAQMD Rule 456 Section 302.
At all times	<p>B. A data sheet applicable to each material type shall be maintained onsite and made available to the SMAQMD Air Pollution Control Officer on request. The data sheet shall include the following information.</p> <ul style="list-style-type: none"> i. The material type by name/code/manufacturer. ii. For coating material: the maximum VOC content of the coating material, as applied, after any mixing or thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), excluding water and exempt compounds, pursuant to SMAQMD Rule 456 Section 404.

**V-P. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(4) AEROSPACE COATING OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

Frequency	Information to be Recorded
	<p>iii. For coating removers (strippers), surface preparation and cleaning material and application equipment cleanup material the maximum VOC content of the material, as applied, after any mixing or thinning as recommended by the manufacturer, and the VOC composite partial vapor pressure. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), including water and exempt compounds, pursuant to SMAQMD Rule 456 Section 405. The VOC composite partial pressure shall be displayed in mm Hg at 20°C.</p> <p>iv. For all material, recommendations regarding thinning, reducing or mixing with any VOC containing material, as defined in SMAQMD Rule 456 Section 263.</p> <p>v. For all material, VOC content may be calculated using product formulation data, or may be determined using the test method in SMAQMD Rule 456 Section 502.1.</p> <p>vi. The VOC composite partial pressure may be calculated using product formulation data or may be determined using the test method in SMAQMD Rule 456 Section 502.6.</p>
Daily	C. For non-compliant coatings, as defined in SMAQMD Rule 456 Section 237, records regarding the use, including the lack of use, of each material type by name/code/manufacturer and the total applied volume of each material.
Monthly	<p>D. Records of total applied volume for each coating, coating remover (stripper), surface preparation and cleaning material and application equipment cleanup material, specified by category as listed in SMAQMD Rule 456 Sections 301, 302 and 304.</p> <p>E. The method of application, specified by coating category as listed in SMAQMD Rule 456 Sections 301 and 302, or by exemption pursuant to SMAQMD Rule 456 Section 112, as applicable.</p> <p>F. Records of total applied volume for each material type exceeding the VOC limits specified in SMAQMD Rule 456 Sections 301 and 302 or the VOC composite partial vapor pressure limits specified in SMAQMD Rule 456 Section 302 by name/code/manufacturer and coating category.</p>

**V-P. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(4) AEROSPACE COATING OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

Frequency	Information to be Recorded
Quarterly	<p>G. The total ROC emissions from the use of all ROC containing materials. (lb ROC/quarter)</p> <p>H. A statement as to whether the quarterly ROC limitation of Condition No. 2 of this Section was exceeded.</p>

19. The permittee shall comply with all recordkeeping requirements specified in 40 CFR 63.10(a), (b), (d) and (f) for all operations subject to 40 CFR Part 63 Subpart GG - National Emission Standards for Aerospace Manufacturing and Rework Facilities.
[Basis: 40 CFR 63.752(a)]

20. The following record shall be continuously maintained onsite for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Monthly, quarterly and yearly records shall be made available within 30 days following the end of the reporting period.
[Basis: 40 CFR Part 63.752]

Process/Operation	Information to be Recorded
<p>A. For all cleaning operations [Basis: 40 CFR 63.752(b)(1)]</p>	<p>i. Each owner or operator of a new or existing cleaning operation subject to 40 CFR 63 Subpart GG shall record the following information, as appropriate.</p> <p>a. Name of each cleaning solvent used.</p> <p>b. Vapor pressure each of cleaning solvent used.</p> <p>c. Documentation showing the organic HAP constituent of each cleaning solvent used.</p>
<p>B. For each solvent used in hand-wipe cleaning operations that complies with the composition requirements specified in 40 CFR 63.744(b)(1) [Basis: 40 CFR 63.752(b)(2)]</p>	<p>i. Name of each cleaning solvent used.</p> <p>ii. All data and calculations that demonstrate that the cleaning solvent complies with one of the composition requirements.</p> <p>iii. Annual records of the volume of solvent used, as determined by facility purchase records or usage records. (gallons/year)</p>

**V-P. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(4) AEROSPACE COATING OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

Process/Operation	Information to be Recorded
C. For each solvent used in hand-wipe cleaning operations that does not comply with the composition requirements in 40 CFR 63.744(b)(1) but does comply with the vapor pressure requirements in 40 CFR 63.744(b)(2) [Basis: 40 CFR 63.752(b)(3)]	<ul style="list-style-type: none"> i. Name of each cleaning solvent used. ii. The composite vapor pressure of each cleaning solvent used. iii. All vapor pressure test results, if appropriate, data, and calculations used to determine the composite vapor pressure of each cleaning solvent. iv. The amount of each cleaning solvent used each month at each hand-wipe cleaning operation, as defined in 40 CFR 63.742. (gallons/month)
D. For each solvent used for the exempt hand-wipe cleaning operations specified in 40 CFR 63.744(e) that does not conform to the vapor pressure or composition requirements of 40 CFR 63.744(b). [Basis: 40 CFR 63.752(b)(4)]	<ul style="list-style-type: none"> i. The identity and amount of each cleaning solvent used each month at each hand-wipe cleaning operation, as defined in 40 CFR 63.742. (gallons/month) ii. A list of the processes set forth in 40 CFR 63.744(e) to which the cleaning operation applies.
E. Cleaning operations - enclosed spray gun cleaners [Basis: 40 CFR 63.752(b)(5)]	<ul style="list-style-type: none"> i. A record of all leaks identified pursuant to 40 CFR 63.751(a) that includes for each leak found. <ul style="list-style-type: none"> a. Source identification b. Date leak was discovered c. Date leak was repaired
F. Primer and topcoat applications - organic HAP and VOC. [Basis: 40 CFR 63.752(c)(1)]	<ul style="list-style-type: none"> i. Name and VOC content as received and as applied for each primer and top coat used. ii. The mass of organic HAP emitted per unit volume of coating as applied (less water) (H_i) and the mass of VOC emitted per unit volume of coating as applied (less water and exempt solvents) (G_i)

**V-P. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(4) AEROSPACE COATING OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

Process/Operation	Information to be Recorded
	<p>for each coating formulation within each coating category used each month (as calculated using the procedures specified in 40 CFR 63.750(c) and (e)).</p> <p>iii. All data, calculations and test results (including U.S. EPA Method 24 results) used in determining H_i and G_i.</p> <p>iv. The volume of each coating formulation within each coating category used each month. (gallons/month)</p>
<p>G. "Low HAP Content" primers. [Basis: 40 CFR 63.752(c)(2)]</p>	<p>i. Primers with organic HAP content less than or equal to 250 g/l (2.1 lb/gal) less water as applied and VOC content less than or equal to 250 g/l (2.1 lb/gal) less water and exempt solvents as applied:</p> <p>a. Annual purchase records of the total volume of each primer purchased.</p> <p>b. All data, calculations, and test results (including EPA Method 24 results) used in determining the organic HAP and VOC content as applied. These records shall consist of the manufacturer's certification when the primer is applied as received, or the data and calculations used to determine H_i if not applied as received.</p>
<p>H. Depaint [Basis: 40 CFR 63.752(e)(1)]</p>	<p>i. For all chemical strippers used in the depainting operation.</p> <p>a. The name of each chemical stripper.</p> <p>b. Monthly volumes of each organic HAP containing chemical stripper used or monthly weight of organic HAP-material used for spot stripping and decal removal. (gallons/month or lb/month)</p>

**V-P. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(4) AEROSPACE COATING OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

Process/Operation	Information to be Recorded
	<ul style="list-style-type: none"> ii. For each type of aircraft depainted at the facility, a listing of the parts, subassemblies, and assemblies normally removed from the aircraft before depainting. Prototype, test model or aircraft that exist in low numbers (i.e., less than 25 aircraft of any one type) are exempt from this requirement. iii. For spot stripping and decal removal. <ul style="list-style-type: none"> a. The volume of organic HAP-containing chemical stripper or weight of organic HAP used. b. The annual average volume of organic HAP-containing chemical stripper or weight of organic HAP used per aircraft. c. The annual number of aircraft stripped d. All data and calculations used.

REPORTING REQUIREMENTS

21. The permittee shall submit the following semiannual compliance status reports. The reports shall be for the periods of January 01 through June 30 and July 01 through December 31, and shall be received by the SMAQMD by no later than 30 days after the end of the reporting period.

[Basis: 40 CFR 63.753(a)]

Process/Operation	Information to be Submitted
<p>A. Cleaning Operations [Basis: 40 CFR 63.753(b)]</p>	<ul style="list-style-type: none"> i. Any instance where a non-compliant cleaning solvent is used for non-exempt hand-wipe cleaning operations. ii. A list of any new cleaning solvents used for hand-wipe cleaning in the previous 6 months and, as appropriate, their composite vapor pressure or notification that they comply with the composition requirements specified in 40 CFR 63.774(b)(1).

**V-P. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(4) AEROSPACE COATING OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

Process/Operation	Information to be Submitted
	<ul style="list-style-type: none"> iii. Any instance where a noncompliant spray gun cleaning method is used. iv. Any instance where a leaking enclosed spray gun cleaner remains unrepaired and in use for more than 15 days. v. If the operations have been in compliance for the semiannual period, a statement that the cleaning operations have been in compliance with the applicable standards.
<p>B. Primer and topcoat application operations [Basis: 40 CFR 63.753(c)]</p>	<ul style="list-style-type: none"> i. For primers and topcoats where compliance is not being achieved through the use of averaging or a control device, each value of H_i and G_i, as recorded under 40 CFR 63.752(c)(2)(i), that exceeds the applicable organic HAP or VOC content limit specified in 40 CFR 63.745(c). ii. If the operations have been in compliance for the semiannual period, a statement that the operations have been in compliance with the applicable standards. Sources shall also submit a statement of compliance signed by the Responsible Official certifying that the facility is in compliance with all applicable requirements.
<p>C. Depaint Operations [Basis: 40 CFR 63.753(d)]</p>	<ul style="list-style-type: none"> i. Any 24-hour period where organic HAP were emitted from the depainting of aerospace vehicles, other than from the exempt operations listed in 40 CFR 63.746 (a), (b)(3) and (b)(5). ii. Any new chemical strippers used at the facility during the reporting period. iii. The organic HAP content of these new chemical strippers. iv. For each chemical stripper that undergoes reformulation, its organic HAP content.

**V-Q. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) AEROSPACE CLEANING AND SURFACE
PREPARATION OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)**

- A. EQUIPMENT DESCRIPTION:** The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
17489	Miscellaneous, <u>facility-wide</u> , solvent cleaning and surface preparation of aerospace vehicles and components subject to NESHAP, 40 CFR 63 Subpart GG.	Facility-wide

- B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS:** The requirements specified in this section are enforceable by the SMAQMD, U.S. EPA and the public.

EXEMPTIONS FROM REQUIREMENTS

1. The following operations are exempt from the requirements of 40 CFR 63 Subpart GG.
 - A. Regulated activities associated with space vehicles designed to travel beyond the limit of the earth's atmosphere.
[Basis: 40 CFR 63.741(h)]
2. The following operations are exempt from the requirements of Condition Nos. 13, 15, 16, 17, 18, 19, 21 and 22 of this Section.
 - A. Surface cleaning and/or surface preparation operations using solvents that meet one of the requirements specified below:
 - i. Aqueous solvents: cleaning solvents in which water is the primary ingredient (\geq 80% of cleaning solvent solution as applied must be water). Detergents, surfactants, and bioenzymes mixtures and nutrients may be combined with the water along with a variety of additives, such as organic solvents (e.g. high boiling point alcohols), builders, saponifiers, inhibitors, emulsifiers, PH buffers and antifoaming agents. Aqueous solutions must have a flash point greater than 93 °C (200 °F), as reported by the manufacturer, and the solution must be miscible with water.
[Basis: 40 CFR 63.744(a)]

**V-Q. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) AEROSPACE CLEANING AND SURFACE
PREPARATION OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

-
- ii. Hydrocarbon-based solvents: cleaners that are composed of photochemically reactive hydrocarbons and/or oxygenated hydrocarbons and have a maximum vapor pressure of 7 mm Hg at 20 °C (3.75 in. H₂O at 68 °F). These cleaners also contain no HAPs.
[Basis: 40 CFR 63.744(a)]
 - iii. Solvents containing HAP and VOC at concentrations less than 0.1 percent for carcinogens or 1.0 percent for noncarcinogens.
[Basis: 40 CFR 63.741 (f)]
 - 3. The operations listed in 40 CFR 63.744(e) are exempt from the requirements of 40 CFR 63.744(b) - Hand-wipe Cleaning. These operations include, but are not limited to.
 - A. Cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, or hydrazine).
 - B. Cleaning and surface activation prior to adhesive bonding.
 - C. Cleaning of electronic parts and assemblies containing electronic parts.
 - D. Cleaning of fuel cells, fuel tanks and confined spaces.
 - E. Cleaning and cleaning solvent usage associated with research and development, quality control and laboratory testing.
 - F. Cleaning operations identified as essential uses under the Montreal Protocol for which the U.S. EPA Administrator has allocated essential use allowances or exemptions in 40 CFR 82.4.
[Basis: 40 CFR 63.744(e)]
 - 4. The requirements of SMAQMD Rule 456 shall not apply to the following.
 - A. Use of cleaning solvents in non-refillable aerosol containers having a capacity of one liter (1.1. quarts) or less.
[Basis: SMAQMD Rule 456 Section 111]

**V-Q. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) AEROSPACE CLEANING AND SURFACE
PREPARATION OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

5. The requirements of Condition No. 14 of this Section shall not apply to the following, provided the requirements of SMAQMD Rule 456 Section 501 are satisfied.

A. Cleaning and/or surface preparation of space vehicles.

B. Cleaning and surface activation prior to adhesive bonding.

[Basis: SMAQMD Rule 456 Section 113]

6. The requirements of Condition No. 20 shall not apply to the cleaning of rocket motor lining process application equipment if the application equipment is cleaned in an enclosed gun cleaner.

[Basis: SMAQMD Rule 456 Section 114]

EMISSION LIMIT REQUIREMENTS

7. The surface cleaning and/or surface preparation operations shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which is as dark or darker than Ringelmann 1 or equivalent to or greater than 20% opacity.

[Basis: SMAQMD Rule 401]

8. The total combined VOC emissions from all aerospace cleaning and surface preparation operations covered under SMAQMD PO 17489 shall not exceed the following limits. Each individual operation shall not exceed the usage limitation specified in Condition No. 9 of this Section.

Equipment Description	Maximum Allowable VOC emissions lb/quarter
All aerospace cleaning and surface preparation operations covered by PO 17489	2000

EQUIPMENT OPERATION - GENERAL REQUIREMENTS

9. Operations using a combined total of more than one gallon per day of VOC-containing solvents shall not be covered by this permit. The permittee shall apply for individual Authorities to Construct/Permits to Operate for such operations.

[Basis: SMAQMD Rule 201]

10. All VOC containing materials shall be stored in closed containers when not in use.

[Basis: SMAQMD Rule 456 Section 304]

**V-Q. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) AEROSPACE CLEANING AND SURFACE
PREPARATION OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

11. All cloth, paper or sponges used for surface preparation, cleanup and paint removal shall be disposed of in closed containers. Paper used for masking does not need to be disposed of in closed containers.

[Basis: SMAQMD Rule 456 Section 304]

12. Except as allowed by Condition Nos. 2 and 3, the permittee shall comply with all applicable requirements of 40 CFR 63 Subparts A and GG.

[Basis: 40 CFR 63.741(b)]

13. Except as allowed by Condition Nos. 2 and 3, hand-wipe cleaning operations shall be performed with cleaning solutions that have a composite vapor pressure of 45 mm Hg or less at 68 °F (20 °C).

[Basis: 40 CFR 63.744(b)(2)]

14. The following materials, when applied to any aerospace component for the specified use, shall comply with either the VOC content or composite partial vapor pressure limitation.

[Basis: SMAQMD Rule 456 Section 304.7]

Material Use	Maximum VOC content as applied	OR	Maximum VOC composite partial vapor pressure
	Grams/liter (lb/gal)		mm Hg at 20°C (psia at 68°F)
Surface preparation or cleaning	200 (1.67)		45 (0.87)

15. Except as allowed by Condition No. 2, cleaning solvent-laden cloth, paper, or any other absorbent applicators used for cleaning shall be placed in closed containers. These containers shall be of such design so as to contain the vapors of the cleaning solvents and shall be kept closed at all times except when depositing or removing materials from the container.

[Basis: 40 CFR 63.744(a)(1)]

16. Except as allowed by Condition No. 2, fresh and spent cleaning solvents, except semi-aqueous solvents (at least 60 percent of solvent solution as applied is water), shall be stored in closed containers.

[Basis: 40 CFR 63.744(a)(2)]

**V-Q. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) AEROSPACE CLEANING AND SURFACE
PREPARATION OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

17. Except as allowed by Condition No. 2, cleaning solvents shall be handled and transferred to or from enclosed systems, vats, waste containers and other cleaning operation equipment that holds or stores fresh or spent cleaning solvents in such a manner that minimizes spills.

[Basis: 40 CFR 63.744(a)(3)]

18. Except as allowed by Condition No. 2 or when using semi-aqueous solvents (at least 60 percent of solvent solution as applied is water), used cleaning solvent from flush cleaning operations shall be emptied into an enclosed container or collection system that is kept closed when not in use or into a system with equivalent emission control.

[Basis: 40 CFR 63.744(d)]

19. Except as allowed by Condition No. 2 or as provided in 40 CFR 63.741(e), HAP-containing waste shall be handled and transferred to and from containers, tanks, vats, vessels and piping systems in such a manner that minimizes spills.

[Basis: 40 CFR 63.748]

20. A person shall not use VOC-containing materials for the cleaning of application equipment used in coating operations unless the VOC content of the material used does not exceed 25 grams/liter (0.21 pounds per gallon). The VOC content shall be determined pursuant to SMAQMD Rule 456 Section 502.1.

[Basis: SMAQMD Rule 456 Section 304.5]

Material Type	Maximum Allowable VOC Content grams/liter (lb/gal)
VOC-containing materials for the cleaning of application equipment	25 (0.21)

MONITORING AND RECORD KEEPING REQUIREMENTS

21. Except as allowed by Condition No. 2, the permittee shall visually inspect the seals and all other potential sources of leaks associated with each enclosed spray gun cleaner system at least once per month. Each inspection shall occur while the system is in operation.

[Basis: 40 CFR 63.751(a)]

- A. An alternative monitoring method may be approved by the U.S. EPA Administrator pursuant to 40 CFR 63.751(e).

[Basis: 40 CFR 63.751(e)]

**V-Q. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) AEROSPACE CLEANING AND SURFACE
PREPARATION OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

22. Except as allowed by Condition No. 2, the permittee shall fulfill all recordkeeping requirements specified in 40 CFR Section 63.10(a), (b), (d) and (f) for all operations subject to 40 CFR 63 Subpart GG.

[Basis: 40 CFR 63.752(a)]

23. The following record shall be continuously maintained onsite for the most recent five-year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly and yearly records shall be made available within 30 days following the end of the reporting period.

[Basis: SMAQMD Rule 456 Section 501 and 40 CFR 63.752(b)]

Process/Operation	Information to be Recorded
A. For all cleaning operations [Basis: 40 CFR 63.752(b)(1)]	i. Each owner or operator of a new or existing cleaning operation subject to 40 CFR 63 Subpart GG shall record the following information, as appropriate. a. Name of each cleaning solvent used. b. Vapor pressure each of cleaning solvent used. c. Documentation showing the organic HAP constituent of each cleaning solvent used.
B. For each solvent used in hand-wipe cleaning operations that complies with the composition requirements specified in 40 CFR 63.744(b)(1) [Basis: 40 CFR 63.752(b)(2)]	i. Name of each cleaning solvent used. ii. All data and calculations that demonstrate that the cleaning solvent complies with one of the composition requirements. iii. Annual records of the volume of solvent used, as determined by facility purchase records or usage records. (gallons/year)

**V-Q. EQUIPMENT
 SPECIFIC
 REQUIREMENTS**

**(1) AEROSPACE CLEANING AND SURFACE
 PREPARATION OPERATION
 (SUBJECT TO AEROSPACE NESHAP GG)
 (continued)**

Process/Operation	Information to be Recorded
<p>C. For each solvent used in hand-wipe cleaning operations that does not comply with the composition requirements in 40 CFR 63.744(b)(1) but does comply with the vapor pressure requirements in 40 CFR 63.744(b)(2) [Basis: 40 CFR 63.752(b)(3)]</p>	<p>i. Name of each cleaning solvent used.</p> <p>ii. The composite vapor pressure of each cleaning solvent used.</p> <p>iii. All vapor pressure test results, if appropriate, data, and calculations used to determine the composite vapor pressure of each cleaning solvent.</p> <p>iv. The amount of each cleaning solvent used each month at each hand-wipe cleaning operation, as defined in 40 CFR 63.742. (gallons/month)</p>
<p>D. For each solvent used for the exempt hand-wipe cleaning operations specified in 40 CFR 63.744(e) that does not conform to the vapor pressure or composition requirements of 40 CFR 63.744(b). [Basis: 40 CFR 63.752(b)(4)]</p>	<p>i. The identity and amount of each cleaning solvent used each month at each hand-wipe cleaning operation, as defined in 40 CFR 63.742. (gallons/month)</p> <p>ii. A list of the processes set forth in 40 CFR 63.744(e) to which the cleaning operation applies.</p>
<p>E. Cleaning operations - enclosed spray gun cleaners [Basis: 40 CFR 63.752(b)(5)]</p>	<p>i. A record of all leaks identified pursuant to 40 CFR 63.751(a) that includes for each leak found.</p> <p>a. Source identification</p> <p>b. Date leak was discovered</p> <p>c. Date leak was repaired</p>

**V-Q. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) AEROSPACE CLEANING AND SURFACE
PREPARATION OPERATION
(SUBJECT TO AEROSPACE NESHAP GG)
(continued)**

REPORTING REQUIREMENTS

24. The permittee shall submit the following semiannual compliance status reports. The reports shall be for the periods of January 01 through June 30 and July 01 through December 31, and shall be received by the SMAQMD by no later than 30 days after the end of the reporting period.

[Basis: 40 CFR 63.753(a)]

Process/Operation	Information to be Submitted
A. Cleaning Operations [Basis: 40 CFR 63.753(b)]	<ul style="list-style-type: none">i. Any instance where a non-compliant cleaning solvent is used for non-exempt hand-wipe cleaning operations.ii. A list of any new cleaning solvents used for hand-wipe cleaning in the previous 6 months and, as appropriate, their composite vapor pressure or notification that they comply with the composition requirements specified in 40 CFR 63.774(b)(1).iii. Any instance where a noncompliant spray gun cleaning method is used.iv. Any instance where a leaking enclosed spray gun cleaner remains unrepaired and in use for more than 15 days.v. If the operations have been in compliance for the semiannual period, a statement that the cleaning operations have been in compliance with the applicable standards.

**V-R. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) AEROSPACE CLEANING AND SURFACE
PREPARATION OPERATION
(NOT SUBJECT TO AEROSPACE NESHAP
GG)**

- A. EQUIPMENT DESCRIPTION:** The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
20419	Solvent cleaning and surface preparation for Space Vehicles (not subject to NESHAP, 40 CFR 63 Subpart GG)	20004

- B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS:** this section are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. The surface cleaning and/or surface preparation operations shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which is as dark or darker than Ringelmann 1 or equivalent to or greater than 20% opacity.

[Basis: SMAQMD Rule 401]

2. The emissions from the solvent cleaning operation shall not exceed the following limits.

[Basis: SMAQMD Rule 202]

Pollutant	Emission Factor lb ROC/gallon	Maximum Allowable Emissions (A)		
		lb/day	lb/quarter	lb/year
ROC	6.59 (B)	64	132	528

(A) ROC emission limit is based on the requested solvent usage by the permittee.

(B) Emission factor is based on the ROC content of IPA, which yields the highest emission.

3. Compliance with the emission limitations specified in Condition No. 2 shall be determined as follows.

[Basis: SMAQMD Rule 202]

$$\text{ROC emissions (lb/day)} = [\text{Cleaning Solvent Usage, gal/day}] \times [\text{VOC content as applied, lb/gal}]$$

**V-R. EQUIPMENT
 SPECIFIC
 REQUIREMENTS**

**(1) AEROSPACE CLEANING AND SURFACE
 PREPARATION OPERATION
 (NOT SUBJECT TO AEROSPACE NESHAP
 GG)
 (continued)**

ROC emissions (lb/qtr) = [Cleaning Solvent Usage, gal/qtr] x [VOC content as applied, lb/gal]

ROC emissions (lb/year) = [Cleaning Solvent Usage, gal/year] x [VOC content as applied, lb/gal]

EQUIPMENT OPERATION REQUIREMENTS

4. The solvent cleaning and surface preparation operation shall only be performed on Space Vehicles as defined in 40 CFR 63.742.
[Basis: SMAQMD Rule 201 Section 405:
 - A. Limiting the use as described allows the process to be exempt from SMAQMD Rule 456 Section 304.7 (see SMAQMD Rule 456 Section 113.1)]
 - B. Limiting the use as described allows the process to be exempt from 40 CFR 63 Subpart GG (see 40 CFR 63.741(h))]
5. All VOC containing materials shall be stored in closed containers when not in use.
[Basis: SMAQMD Rule 456 Section 304]
6. All cloth, paper or sponges used for surface preparation, cleanup and paint removal shall be disposed of in closed containers. Paper used for masking does not need to be disposed of in closed containers.
[Basis: SMAQMD Rule 456 Section 304]
7. No more than the following amounts of cleaning solvents may be applied to Space Vehicles in Building 20004.
[Basis: SMAQMD Rule 202]

Process	Maximum Allowable Usage (A)		
	gal/day	gal/quarter	gal/year
Cleaning solvent applied to Space Vehicles in Building 20004	9.7	20	80

(A) ROC emission limit is based on the requested solvent usage by the permittee.

**V-R. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) AEROSPACE CLEANING AND SURFACE
PREPARATION OPERATION
(NOT SUBJECT TO AEROSPACE NESHAP
GG)
(continued)**

8. The VOC content of cleaning solvents applied to Space Vehicles in Building 20004 shall not exceed the following limitation.

[Basis: SMAQMD Rule 202 BACT Determination]

Material	Maximum Allowable VOC Content (A) as applied grams of VOC per liter (lb/gal)
Cleaning solvent applied to Space Vehicles in Building 20004	789 (6.59)

(A) VOC content is based on a BACT determination for this source category.

9. Application of cleaning solvents shall be done using one of the following cleaning devices or methods.

A. Wipe Cleaning.

B. Non-propellant spray bottles or containers.

C. Using cleaning equipment which has a solvent container that is closed during cleaning operations.

D. Using remote reservoir degreaser, non-vapor degreaser or vapor degreaser.

E. Using solvent flushing methods

[Basis: SMAQMD Rule 202 BACT Determination]

10. The cleaning solvent shall only be dispensed using a controlled flow solvent dispenser.

[Basis: SMAQMD Rule 202 BACT Determination]

**V-R. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) AEROSPACE CLEANING AND SURFACE
PREPARATION OPERATION
(NOT SUBJECT TO AEROSPACE NESHAP
GG)
(continued)**

RECORD KEEPING REQUIREMENTS

11. The following record shall be continuously maintained onsite for the most recent five-year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly records shall be made available within 30 days following the end of the reporting period.

[Basis: SMAQMD Rule 201 Section 405]

Frequency	Information to be Recorded
At all times	For currently used and/or stored cleaning solvents. A. Product name/code/manufacture. B. Actual VOC content as applied including water and exempt compounds. C. Actual mixing ratio for the cleaning solvent as applied.
Daily	D. Quantities of each cleaning solvent used. (gal/day) E. Solvent cleaning activity associated with each solvent used. F. Calculation of ROC emissions from the solvent cleaning operation by the method specified in Condition No. 3. (lb/day)
Quarterly	G. Quantities of each cleaning solvent used. (gal/quarter) H. Solvent cleaning activity associated with each solvent used. I. Calculation of ROC emissions from the solvent cleaning operation by the method specified in Condition No. 3. (lb/quarter)

**V-R. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) AEROSPACE CLEANING AND SURFACE
PREPARATION OPERATION
(NOT SUBJECT TO AEROSPACE NESHAP
GG)
(continued)**

EMISSION REDUCTION CREDIT (ERC) REQUIREMENTS

12. Emission Reduction Credit (ERC) certificates, as indicated, are required and have been surrendered to the SMAQMD Air Pollution Control Officer.

[Also indicated is the value of the ERC certificate emissions after applying the applicable Offset Ratio. This value is the SMAQMD Rule 202 required emission offset.]

[Basis: SMAQMD Rule 202]

PO 20419	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
ROC SMAQMD ERC C07-1014 Loan expires 10-01-2027	132	132	132	132	1.0	132	132	132	132

**V-S. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) AEROSPACE COATING OPERATION
(NOT SUBJECT TO AEROSPACE NESHAP
GG)**

A. EQUIPMENT DESCRIPTION: The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment.

PO No.	Equipment Description	Location/ Building
153	Application: Space vehicle coating (A) Coating Booth Mfg.: Devilbliss Model No.: XSW 6520 Dimensions: 12'W x 8'H x 4'2"D Filter type: Dry filter Spray gun type: HVLP Exhaust fan: 15 hp	01083
5811	Application: Specialty coating (B) Spray Fixture Mfg.: Aerojet Design Serial No.: T-114389 Dimensions: 12'W x 10'H x 12'D Filter type: Dry filter Spray gun type: HVLP and Air Atomizing Reciprocating Spray Boom (equivalent method that is approved under SMAQMD Rule 456 Section 303.9 by SMAQMD and U.S. EPA) Exhaust fan: 0.25 hp	20004
7497	Application: Specialty coating (B) Coating Booth Mfg.: Binks Model No.: NA Dimensions: 16'W x 12'H x 26'D Filter type: Dry primary filter and double fine secondary dry filter, and activated carbon filters Spray gun type: HVLP Exhaust fan: (2) 5 hp	20004
8217	Application: Specialty coating (B) Coating Booth Mfg.: Binks Model: FF-12-8-T Dimensions: 12'W x 8'H x 7'6"D Filter type: Dry filter Spray gun type: HVLP Exhaust fan: 7.5 hp	01012

**V-S. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) AEROSPACE COATING OPERATION
(NOT SUBJECT TO AEROSPACE NESHAP
GG)
(continued)**

PO No.	Equipment Description	Location/ Building
20652	Application: Space vehicle coating (A) or specialty coatings (B) Coating Booth Mfg.: Box-Bleeker Dimensions: 24'W x 8'H x 10'D Filter type: Dry filter Spray gun type: HVLP Exhaust fan: 7.5 hp, 27,610 cfm	01098
21140	Application: Space vehicle coating (A) or specialty coatings (B) Coating Enclosure Mfg.: Pratt & Whitney Dimensions: 2'W x 6'H x 32'L Filter type: Dry filter Spray gun type: Air atomizing (equivalent method that is approved under SMAQMD Rule 456 Section 303.9 by SMAQMD and U.S. EPA) Exhaust fan: 0.75 hp	01083

(A) Space Vehicle is defined in 40 CFR 63.742

(B) Specialty coating is defined in 40 CFR 63 Subpart GG Appendix A

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified in this section are enforceable by the SMAQMD, U.S. EPA and the public.

EXEMPTIONS

1. The requirements of SMAQMD Rule 456 shall not apply to the following.

A. Coatings or cleaning solvents in non-refillable aerosol containers having a capacity of one liter (1.1 quarts) or less.

[Basis: SMAQMD Rule 456 Section 111]

2. The requirements of Condition No. 10 shall not apply to the following.

A. Coatings that are applied via a template, stencil, stamp, or hand lettering to add designs, letters, or numbers to an aerospace component.

**V-S. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) AEROSPACE COATING OPERATION
(NOT SUBJECT TO AEROSPACE NESHAP
GG)
(continued)**

- B. Touch-up and repair coating operations and the use of detail guns for coating application.
- C. The application of coatings that contain fillers that adversely affect atomization with HVLP spray guns and that the SMAQMD has determined cannot be applied by any of the application methods specified in Condition 10.
- D. Hand held spray containers with non-refillable propellant canisters having a capacity of 8 ounces or less where total facility usage does not exceed 10 gallons per year, pursuant to SMAQMD Rule 456 Section 501.3.

[Basis: SMAQMD Rule 456 Section 112]

- 3. The requirements of Condition No. 9 shall not apply to the following provided the requirements of SMAQMD Rule 456 Section 501 are satisfied.

- A. Space Vehicles.

- B. Cleaning and surface activation prior to adhesive bonding.

[Basis: SMAQMD Rule 456 Section 113]

- 4. The requirements of Condition No. 8 and the requirements for coating removers (strippers) in Condition No. 9 do not apply, provided the requirements of SMAQMD Rule 456 Sections 401 and 501 and all of the following are satisfied:

- A. The total of rocket motor adhesives that exceed the limit specified in SMAQMD Rule 456 Section 301 used at the stationary source does not exceed 200 gallons in a calendar year and the VOC content of the adhesives is less than 890 grams/liter, less water and exempt compounds; and

- B. The total of all other materials that exceed the limits specified in SMAQMD Rule 456 Sections 301 and 302 used at the stationary source does not exceed 55 gallons in a calendar year; and

- C. The total combined rocket motor adhesives and all other materials that exceed the limits specified in SMAQMD Rule 456 Sections 301 and 302 used at the stationary source do not exceed 200 gallons in a calendar year.

[Basis: SMAQMD Rule 456 Section 110]

**V-S. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) AEROSPACE COATING OPERATION
(NOT SUBJECT TO AEROSPACE NESHAP
GG)
(continued)**

EMISSION LIMIT REQUIREMENTS

5. The equipment shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.

[Basis: SMAQMD Rule 401]

6. Emissions from the following coating and/or cleaning processes shall not exceed the following limits.

[Basis: SMAQMD Rule 202]

PO No.	Emission Factor lb ROC/gallon	Maximum Allowable Emissions (B) (C)		
		lb/day	lb/quarter	lb/year
20652	(A)	10	215	860
21140	(A)	9.7	99	396

(A) Emission Factor is specific to each aerospace coating and cleaning process material used and is based on lb ROC/gallon of material used.

(B) Based on the permittee's requested maximum allowable emissions.

(C) ROC emissions include all coating, cleaning and surface preparation processes associated with the coating booth.

EQUIPMENT OPERATION REQUIREMENTS

7. The coating booth, coating enclosure and spray fixture shall only be used for the following.

A. The application of Specialty Coatings as defined in 40 CFR Part 63 Subpart GG Appendix A

B. The coating of Space Vehicles as defined in 40 CFR 63.742.

[Basis: Limiting the use to the above exemptions in 40 CFR Section 63.741(f) and (h) allows the coating booth, coating enclosure and spray fixture to not be subject to the requirements of 40 CFR 63 Subpart GG]

**V-S. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) AEROSPACE COATING OPERATION
(NOT SUBJECT TO AEROSPACE NESHAP
GG)
(continued)**

8. The following coatings, when applied to any aerospace component, shall not have a VOC content that exceeds the following limits.

[Basis: SMAQMD Rule 456 Section 301]

Coating category (SMAQMD Rule 456 definition)	Maximum VOC Content as applied excluding water and exempt compounds grams/liter (lb/gal)
Ablative	600 (5.0)
Adhesive	600 (5.0)
Adhesive bonding agent	780 (6.5)
Conformal	600 (5.0)
Electrostatic discharge	612 (5.1)
Extreme performance	750 (6.3)
Fire resistant/retardant	600 (5.0)
Flight test	420 (3.5)
Fuel tank	650 (5.4)
High temperature	420 (3.5)
Maskants: Type I - chemical milling Type II - chemical milling All others	622 (5.2) 160 (1.3) 850 (7.1)
Mold release	762 (6.4)
Part marking	850 (7.1)
Pretreatment wash primer	780 (6.5)
Primer	350 (2.9)
Radiation effect	600 (5.0)
Rain erosion resistant: Fluoroelastomer All other	800 (6.7) 600 (5.0)
Sealant	600 (5.0)
Sealant adhesion promoter	750 (6.3)

**V-S. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) AEROSPACE COATING OPERATION
(NOT SUBJECT TO AEROSPACE NESHAP
GG)
(continued)**

Coating category (SMAQMD Rule 456 definition)	Maximum VOC Content as applied excluding water and exempt compounds grams/liter (lb/gal)
Self-priming topcoat	420 (3.5)
Solid film lubricant	880 (7.3)
Space vehicle: Electrostatic discharge All other	880 (7.3) 1000 (8.3)
Temporary protective	250 (2.1)
Thermal expansion release	762 (6.4)
Thermocontrol	600 (5.0)
Topcoat:	420 (3.5)
Wet fastener installation	620 (5.2)

9. The following materials, when applied to any aerospace component for the stated purpose, shall comply with either the stated VOC content or composite partial vapor pressure limitation.

[Basis: SMAQMD Rule 456 Section 302 and 304.7]

Material	Maximum VOC Content as applied Grams/liter (lb/gal)	OR	Maximum VOC Composite Partial Vapor Pressure mm Hg (psia) at 68°F (20°C)
Coating remover (stripper)	300 (2.5)		9.5 (0.18)
Surface preparation or cleaning	200 (1.67)		45 (0.87)

10. Coatings shall be applied using only the following application methods.
- A. Hand application equipment, such as brush or roller.
 - B. Dip coat.
 - C. Flow coat.

**V-S. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) AEROSPACE COATING OPERATION
(NOT SUBJECT TO AEROSPACE NESHAP
GG)
(continued)**

D. Roll coater.

E. Electrodeposition.

F. Electrostatic spray.

G. High-volume low-pressure (HVLP) spray.

H. Low-volume low-pressure (LVLP) spray.

I. Any other equivalent method which has been approved in writing by the SMAQMD Air Pollution Control Officer and the U.S. Environmental Protection Agency.

[Basis: SMAQMD Rule 456 Section 303]

11. Closed containers shall be used for the disposal of cloth, sponges or paper used for surface preparation, cleanup and coating removal.

[Basis: SMAQMD Rule 456 Section 304.1]

12. VOC containing materials shall be stored in closed containers when not in use.

[Basis: SMAQMD Rule 456 Section 304.2]

13. A person shall not use VOC-containing materials for the cleaning of application equipment used in coating operations unless the VOC content of the material used does not exceed 25 grams/liter (0.21 pounds per gallon). The VOC content shall be determined pursuant to SMAQMD Rule 456 Section 502.1.

[Basis: SMAQMD Rule 456 Section 304.5]

A. The requirements of SMAQMD Rule 456 Section 304.5 shall not apply to the cleaning of rocket motor lining process application equipment if the application equipment is cleaned in an enclosed gun cleaner.

[Basis: SMAQMD Rule 456 Section 114]

Material Type	Maximum Allowable VOC Content grams/liter (lb/gal)
VOC-containing materials for the cleaning of application equipment	25 (0.21)

**V-S. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) AEROSPACE COATING OPERATION
(NOT SUBJECT TO AEROSPACE NESHAP
GG)
(continued)**

MONITORING AND RECORDKEEPING REQUIREMENTS

14. The following records shall be continuously maintained onsite for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Monthly and quarterly records as specified in the table below shall be made available for inspection within 30 days following the end of the reporting period.
[Basis: SMAQMD Rule 456 Section 501]

Frequency	Information to be Recorded
At all times	<p>A. A list of currently used coatings, coating removers (strippers), surface preparation and cleaning materials, application equipment cleanup materials and other VOC containing materials including, but not limited to thinners, reducers, hardeners, retarders, catalysts, etc. Including the following information.</p> <p>i. The material type by name/code/manufacturer and the appropriate category as designated by the coating categories in SMAQMD Rule 456 Sections 301, 302 and 304 or "exempt" as specified by SMAQMD Rule 456 Sections 112 and 113, as applicable.</p> <p>ii. The actual VOC content of the material, as applied, as determined pursuant to SMAQMD Rule 456 Section 502.1 and for coating removers (strippers), surface preparation and cleaning material and application equipment cleanup material, the VOC composite partial vapor pressure. VOC content as provided by the manufacturer pursuant to SMAQMD Rule 456 Section 403 is acceptable, if following the manufacturer's recommended mix ratio. The VOC composite partial pressure may be calculated using product formulation data or may be determined using the test method in SMAQMD Rule 456 Section 502.6.</p> <p>iii. The actual mixing ratio used for the material, as applied.</p> <p>iv. Identification of each material type exceeding the VOC limits specified in SMAQMD Rule 456 Sections 301 and 302 or the VOC composite partial vapor pressure limits specified in SMAQMD Rule 456 Section 302.</p>

**V-S. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) AEROSPACE COATING OPERATION
(NOT SUBJECT TO AEROSPACE NESHAP
GG)
(continued)**

Frequency	Information to be Recorded
At all times	<p>B. A data sheet applicable to each material type shall be maintained onsite and made available to the SMAQMD Air Pollution Control Officer on request. The data sheet shall include the following information.</p> <ul style="list-style-type: none">i. The material type by name/code/manufacture.ii. For coating material: the maximum VOC content of the coating material, as applied, after any mixing or thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), excluding water and exempt compounds, pursuant to SMAQMD Rule 456 Section 404.iii. For coating removers (strippers), surface preparation and cleaning material and application equipment cleanup material: the maximum VOC content of the material, as applied, after any mixing or thinning as recommended by the manufacturer, and the VOC composite partial vapor pressure. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), including water and exempt compounds, pursuant to SMAQMD Rule 456 Section 405. The VOC composite partial pressure shall be displayed in mm Hg at 20 °C.iv. For all material: recommendations regarding thinning, reducing, or mixing with any VOC containing material, as defined in SMAQMD Rule 456 Section 260.v. For all material: VOC content may be calculated using product formulation data, or may be determined using the test method in SMAQMD Rule 456 Section 502.1.vi. The VOC composite partial pressure may be calculated using product formulation data or may be determined using the test method in SMAQMD Rule 456 Section 502.6.

**V-S. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(6) AEROSPACE COATING OPERATION
(NOT SUBJECT TO AEROSPACE NESHAP
GG)
(continued)**

Frequency	Information to be Recorded
Daily	<p>C. The total ROC emissions from the use of all ROC containing materials. (lb ROC/day)</p> <p>D. For PO 20652: a statement as to whether the daily ROC limitation of Condition No. 6 was exceeded.</p> <p>E. For non-compliant coatings, as defined in SMAQMD Rule 456 Section 235, records regarding the use, including the lack of use, of each material type by name/code and the total applied volume of each material.</p>
Monthly	<p>F. Records of total applied volume for each coating, coating remover (stripper), surface preparation and cleaning material and application equipment cleanup material, specified by category as listed in SMAQMD Rule 456 Sections 301, 302 and 304.</p> <p>G. The method of application specified by coating category as listed in SMAQMD Rule 456 Sections 301 and 302, or by exemption pursuant to SMAQMD Rule 456 Section 112, as applicable.</p> <p>H. Records of total applied volume for each material type exceeding the VOC limits specified in SMAQMD Rule 456 Sections 301 and 302 or the VOC composite partial vapor pressure limits specified in SMAQMD Rule 456 Section 302 by name/code/manufacturer and coating category.</p>
Quarterly	<p>I. The total ROC emissions from the use of all ROC containing materials. (lb ROC/quarter)</p> <p>J. For PO 20652: a statement as to whether the quarterly ROC limitation of Condition No. 6 was exceeded.</p>

**V-S. EQUIPMENT
 SPECIFIC
 REQUIREMENTS**

**(6) AEROSPACE COATING OPERATION
 (NOT SUBJECT TO AEROSPACE NESHAP
 GG)
 (continued)**

EMISSION REDUCTION CREDIT (ERC) REQUIREMENTS

15. Emission Reduction Credit (ERC) certificates, as indicated, are required and have been surrendered to the SMAQMD Air Pollution Control Officer.

[Also indicated is the value of the ERC certificate emissions after applying the applicable Offset Ratio. This value is the SMAQMD Rule 202 required emission offset.]

[Basis: SMAQMD Rule 202]

PO 20652	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
ROC SMAQMD ERC C08-1002 Loan expires 04-01-2013	280	280	280	280	1.3	215	215	215	215

**V-S. EQUIPMENT
 SPECIFIC
 REQUIREMENTS**

**(6) AEROSPACE COATING OPERATION
 (NOT SUBJECT TO AEROSPACE NESHAP
 GG)
 (continued)**

PO 21140	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
ROC SMAQMD ERC C08-1003 Loan expires 10-01-2018	128.7	128.7	128.7	128.7	1.3	99	99	99	99

**V-T. EQUIPMENT
SPECIFIC
REQUIREMENTS**

(1) COATING OPERATION - METAL AND WOOD

- A. EQUIPMENT DESCRIPTION:** The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment.

PO No.	Equipment Description	Location/ Building
7801	Application: Metal and wood coating Coating Booth Mfg.: Viking Model No.: SB-24 Dimensions: 14'W x 9'H x 24'D Filter type: Dry filter Spray gun type: HVLP Exhaust fan: 3 hp	20022

- B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS:** The requirements specified in this section are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. The equipment shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.
[Basis: SMAQMD Rule 401]

**V-T. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) COATING OPERATION - METAL AND WOOD
(continued)**

Applicable to Coating of Miscellaneous Metal Parts and Products (SMAQMD Rule 451)

EQUIPMENT OPERATION REQUIREMENTS FOR METAL PRODUCTS COATING

2. The following coatings, when applied to any **miscellaneous metal part or product**, shall have a VOC content not to exceed the following limits.

[Basis: SMAQMD Rule 451 Section 301]

Coating category (Rule 451 definition)	Maximum VOC content excluding water and exempt compounds grams/liter (lb/gal)	
	Air dried	Baked (a)
A. Aluminum coating for window frames and door frames	420 (3.5)	275 (2.3)
B. Camouflage	420 (3.5)	360 (3.0)
C. Electrical insulating	340 (2.8)	275 (2.3)
D. Etching filler	420 (3.5)	420 (3.5)
E. Extreme high gloss	420 (3.5)	360 (3.0)
E. Extreme performance	420 (3.5)	360 (3.0)
F. Heat resistant	420 (3.5)	360 (3.0)
G. Metallic/iridescent	420 (3.5)	420 (3.5)
H. Prefabricated architectural component	420 (3.5)	275 (2.3)
I. Pretreatment wash primer	420 (3.5)	420 (3.5)
J. Silicone release coating	420 (3.5)	420 (3.5)
K. Solar absorbent	420 (3.5)	360 (3.0)
L. All other coatings	340 (2.8)	275 (2.3)

(A) Baked coating is any coating which is heated above 90 °C (194 °F) for the purpose of curing or drying.

**V-T. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) COATING OPERATION - METAL AND WOOD
(continued)**

Applicable to Coating of Miscellaneous Metal Parts and Products (SMAQMD Rule 451)

3. A person shall not use the following materials associated with any **miscellaneous metal part or product** coating process if the VOC content exceeds the following limits.
[Basis: SMAQMD Rule 451 Sections 301, 305.3 and 305.4]

VOC Containing Material	Maximum VOC content grams/liter (lb/gal)
A. Coating remover (stripper)	200 (1.7)
B. Product cleaning or surface preparation materials	25 (0.21)
C. Application equipment cleanup materials	25 (0.21)

4. Materials that exceed the VOC content limits specified in Condition Nos. 2 and 3 may be applied on any **miscellaneous metal part or product** provided the total volume used per calendar year at the permittee's facility is less than the following limit and the requirements of SMAQMD Rule 451 Sections 401 and 501 are satisfied.
[Basis: SMAQMD Rule 451 Section 110]

VOC Containing Non-complying Material	Maximum Allowable Total Volume of Non-complying Materials Used to Qualify for Exemption gallons/year
A. Coatings	< 55
B. Coating remover (stripper) materials	
C. Product cleaning materials or surface preparation materials	
D. Application equipment cleanup materials	

5. The permittee shall not use more than 186 liters (50 gallons) per year of a single coating containing organic HAPs or more than a total of 946 liters (250 gallons) per year of coatings containing organic HAPs at the entire facility in operations subject to 40 CFR 63 Subpart M (Miscellaneous Metal Parts and Products).
[Basis: 40 CFR 63.3881(b)]

**V-T. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) COATING OPERATION - METAL AND WOOD
(continued)**

Applicable to Coating of Miscellaneous Metal Parts and Products (SMAQMD Rule 451)

6. The application equipment to be used when applying any **miscellaneous metal part or product** coating material shall be any one of the following.
 - A. Roll Coater
 - B. Dip Coat
 - C. Electrostatic Spray
 - D. Flow Coat
 - E. High-Volume Low-Pressure (HVLP) application equipment
 - F. Low-Volume Low-Pressure (LVLP) application equipment
 - G. Hand Application Equipment, such as brush or roller
 - H. Any other method which has been approved in writing by the SMAQMD Air Pollution Control Officer and the U.S. EPA.
[Basis: SMAQMD Rule 451 Section 304]
7. Closed containers shall be used for the disposal of cloth, paper or sponges used for surface preparation, cleanup, coating application and coating removal.
[Basis: SMAQMD Rule 451 Section 305.1]
8. All VOC-containing materials shall be stored in containers which are closed when not in use, shall be disposed of in a manner that the VOCs are not emitted into the atmosphere and shall be conveyed from one location to another in closed containers or through pipes.
[Basis: SMAQMD Rule 451 Section 305.2]
9. Spillage of VOC-containing materials shall be minimized.
[Basis: SMAQMD Rule 451 Section 305.5]

**V-T. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) COATING OPERATION - METAL AND WOOD
(continued)**

Applicable to Coating of Miscellaneous Metal Parts and Products (SMAQMD Rule 451)

RECORD KEEPING AND REPORTING REQUIREMENTS FOR METAL PRODUCTS

10. The following records shall be continuously maintained on-site for the most recent five-year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Monthly and quarterly records as specified in the table below shall be made available for inspection within 30 days of the end of the reporting period.

[Basis: SMAQMD Rule 451 Section 501]

Frequency	Information to be recorded
At all times	<p>A. A list shall be maintained of currently used coatings, coating removers (strippers), surface preparation materials, cleanup materials, and other VOC containing materials including, but not limited to thinners, reducers, hardeners, retarders, catalysts, etc. The list shall contain all such materials that are currently used and stored on site and shall include the following information.</p> <ul style="list-style-type: none"> i. The material type by name/code/manufacture and the appropriate category as designated by the coating categories or other material categories in SMAQMD Rule 451 Sections 301, 302, 303, 305 or "exempt", as specified by SMAQMD Rule 451 Sections 111 and 112, as applicable. ii. The actual VOC content of the material, as applied, pursuant to SMAQMD Rule 451 Section 252. VOC content as provided by the manufacturer, pursuant to SMAQMD Rule 451 Section 402 is acceptable, if following manufacturer's recommended mix ratio. iii. The actual mixing ratio used for the material, as applied. iv. The substrate to which the material is applied. v. Identification of each material type exceeding the VOC limits specified in Sections 301, 303, 305.3, and 305.4.

**V-T. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) COATING OPERATION - METAL AND WOOD
(continued)**

Applicable to Coating of Miscellaneous Metal Parts and Products (SMAQMD Rule 451)

Frequency	Information to be recorded
At all times	<p>B. A data sheet applicable to each material type shall be maintained on site and made available to the SMAQMD Air Pollution Control Officer on request. The data sheet shall be provided by the supplier to the end user, pursuant to SMAQMD Rule 451 Section 402 and shall include the following information.</p> <ul style="list-style-type: none"> i. The material type by name/code/manufacture. ii. For coating material: <ul style="list-style-type: none"> a. the maximum VOC content of the coating material, as applied, after any mixing or thinning as recommended by the manufacturer. b. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), excluding water and exempt compounds, pursuant to SMAQMD Rule 451 Section 403. iii. For coating removers (strippers), surface preparation and cleanup material: <ul style="list-style-type: none"> a. the maximum VOC content of the material, as applied, after any mixing or thinning as recommended by the manufacturer. b. VOC content shall be displayed as grams of VOC per liter of coating (or pounds of VOC per gallon), including water and exempt compounds, pursuant to SMAQMD Rule 451 Section 404. iv. For all material, recommendations regarding thinning, reducing or mixing with any VOC containing material, as defined in SMAQMD Rule 451 Section 251. v. For all material, VOC content may be calculated using product formulation data, or may be determined using the test method in SMAQMD Rule 451 Section 502.1.

**V-T. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) COATING OPERATION - METAL AND WOOD
(continued)**

Applicable to Coating of Miscellaneous Metal Parts and Products (SMAQMD Rule 451)

Frequency	Information to be recorded
Daily	C. For non-compliant materials, as defined in SMAQMD Rule 451 Section 236, records regarding the use, including the lack of use, of each material type by name/code/manufacture and the total applied volume of each material. (gallons/day)
Monthly	D. Records of total applied volume for each coating, coating remover (stripper), surface preparation and cleanup material, specified by category as listed in SMAQMD Rule 451 Sections 301, 302, 303 and 305. (gallons/month) E. The method of application, specified by coating category or other material category as listed in SMAQMD Rule 451 Sections 301, 302 and 303 including a designation for touch-up and repair operations, as applicable. F. Records of total applied volume for each material type exceeding the VOC limits specified in SMAQMD Rule 451 Sections 301, 303, 305.3 and 305.4 by name/code/manufacture and coating category. (gallons/month)

11. If an exemption for low usage of non-complying materials is being claimed under SMAQMD Rule 451 Section 110 then a written report shall be submitted to the SMAQMD Air Pollution Control Officer by the date indicated and shall contain the following information.

Frequency	Information to be submitted
January 31 of each year	A. The total previous calendar year usage records, as specified in SMAQMD Rule 451 Section 501.3a(3), for all coatings, coating removers, surface preparation and cleanup materials exceeding the VOC limits specified in SMAQMD Rule 451 Sections 301, 303, 305.3 and 305.4.

**V-T. EQUIPMENT
 SPECIFIC
 REQUIREMENTS**

**(1) COATING OPERATION - METAL AND WOOD
 (continued)**

Applicable to Wood Products Coating (SMAQMD Rule 463)

EQUIPMENT OPERATION REQUIREMENTS FOR WOOD PRODUCTS COATING

12. The following coatings, when applied to any new wood product, shall have a VOC content not to exceed the following limits.

[Basis: SMAQMD Rule 463 Section 302]

Coating category (SMAQMD Rule 463 definition)	Maximum Allowable VOC Content excluding water and exempt compounds grams/liter (lb/gal)
Clear topcoats	275 (2.3)
Conversion varnish	550 (4.6)
Filler	275 (2.3)
High-solid stain	350 (2.9)
Inks	500 (4.2)
Mold-seal coating	750 (6.3)
Multi-colored coating	275 (2.3)
Pigmented coating	275 (2.3)
Sealer	275 (2.3)

Coating category (SMAQMD Rule 463 definition)	Maximum Allowable VOC Content grams/liter (lb/gal)
Low-solid stains, toners, washcoats	120 (1.0)

**V-T. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) COATING OPERATION - METAL AND WOOD
(continued)**

Applicable to Wood Products Coating (SMAQMD Rule 463)

13. The following coatings, when applied to refinish, repair, preserve, or restore a wood product, shall have a VOC content not to exceed the following limits.

[Basis: SMAQMD Rule 463 Section 303]

Coating category (SMAQMD Rule 463 definition)	Maximum Allowable VOC Content excluding water and exempt compounds grams/liter (lb/gal)
Clear topcoats	680 (5.7)
Conversion varnish	550 (4.6)
Filler	500 (4.2)
High-solid stain	700 (5.8)
Inks	500 (4.2)
Mold-seal coating	750 (6.3)
Multi-colored coating	680 (5.7)
Pigmented coating	600 (5.0)
Sealer	680 (5.7)

Coating category (SMAQMD Rule 463 definition)	Maximum Allowable VOC Content grams/liter (lb/gal)
Low-solid stains, toners, washcoats	480 (4.0)

**V-T. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) COATING OPERATION - METAL AND WOOD
(continued)**

Applicable to Wood Products Coating (SMAQMD Rule 463)

15. A person shall not apply any wood product coating to any wood products, unless one of the following application methods is used.

- A. Electrostatic spray
- B. High-volume low-pressure (HVLV) spray
- C. Dip coat
- D. Flow coat
- E. Hand application methods, such as brush or roller
- F. Roll coater
- G. Low-volume low-pressure (LVLP) spray
- H. Air assisted airless, for touch-up and repair only
- I. Any other method which has been approved in writing by the SMAQMD Air Pollution Control Officer and the U.S. EPA.

[SMAQMD Rule 463 Section 301]

16. All VOC-containing materials used as a stripper on any wood product shall have either a VOC content or VOC composite partial vapor pressure not to exceed the following limits.

[Basis: SMAQMD Rule 463 Section 304]

Coating category (Rule 463 definition)	Maximum allowable VOC content grams/liter (lb/gal)	OR	VOC composite partial vapor pressure mm Hg (psia) at 20 °C
Stripper	Less than 350 (2.9)		2 (0.04)

**V-T. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) COATING OPERATION - METAL AND WOOD
(continued)**

Applicable to Wood Products Coating (SMAQMD Rule 463)

17. A person shall not use VOC-containing materials for the specified uses if the VOC content exceeds the following limit.

[Basis: SMAQMD Rule 463 Section 308.6]

VOC-containing Material	Maximum Allowable VOC Content grams/liter (lb/gal)
Used for surface preparation or application equipment cleanup	25 (0.21)

18. Closed containers shall be used for the disposal of cloth or paper used for surface preparation, cleanup and coating removal.

[Basis: SMAQMD Rule 463 Section 308.2]

19. All VOC-containing materials shall be stored in containers which are closed when not in use, and shall be disposed of in a manner that the VOCs are not emitted into the atmosphere.

[Basis: SMAQMD Rule 463 Section 308.3]

RECORD KEEPING REQUIREMENTS FOR WOOD PRODUCTS COATING

20. The following records shall be continuously maintained on-site for the most recent five-year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Monthly records as specified in the table below shall be made available for inspection within 30 days following the month and quarter, respectively.

[Basis: SMAQMD Rule 463 Section 501]

Frequency	Information to be recorded
At all times	<p>A. For each coating:</p> <ul style="list-style-type: none"> i. A data sheet, material list, or invoice giving material name, manufacturer identification, material application, and VOC content; and ii. Any catalysts, reducers, or other components used, and the mix ratio; and iii. The applicable VOC limit from SMAQMD Rule 463 Sections 302 or 303, and the actual VOC content of the wood product coating as applied.

**V-T. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) COATING OPERATION - METAL AND WOOD
(continued)**

Applicable to Wood Products Coating (SMAQMD Rule 463)

Frequency	Information to be recorded
Daily	<p>B. If at any time a person uses coatings or materials exceeding the VOC limits specified in Condition Nos. 12, 13 and 16, records shall be maintained on a daily basis showing the type and volume of materials used. (gal/day).</p> <p>C. For coatings used in emissions averaging pursuant to SMAQMD Rule 463 Section 306, daily records shall be maintained, showing the type and volume of coatings, strippers and surface preparation and cleanup materials used.</p> <p>D. For persons using a collection and control system pursuant to SMAQMD Rule 463 Section 305, records shall be maintained on a daily basis, showing the type and volume of coatings and solvents used. (gal/day)</p>
Monthly	<p>E. For persons using coatings or materials which comply with the VOC limits specified in Condition Nos. 12, 13, 16 and 17, records shall be maintained on a monthly basis, showing the type and volume of coatings, strippers and surface preparation and cleanup materials used. Coating type shall be designated according to the coating categories as listed in SMAQMD Rule 463 Sections 302, 303, and 304. (gal/month)</p>

**V-U. EQUIPMENT
SPECIFIC
REQUIREMENTS**

(2) RDX DRYING FACILITY

- A. EQUIPMENT DESCRIPTION:** The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
7779	RDX Drying facility No. 1	01024
7780	APC Condenser System consisting of: A. Heat exchanger B. Expansion Coil, refrigerant cooled C. Refrigeration unit, Whirlpool, Model No. NCAD-024AB, 3 ton capacity D. Incoming air blower, 500 cfm, 0.33 hp E. Exhaust air blower, 500 cfm, 0.33 hp	

- B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS:** The requirements specified in this section are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. The process shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.

[Basis: SMAQMD Rule 401 Section 301]

2. Emissions from the RDX drying facility shall not exceed the following limits.

[Basis: SMAQMD Rule 202]

Pollutant	Emission Factor	Maximum Allowable Emissions (B) lb/day
ROC	(A)	150

- (A) The permittee shall provide calculations acceptable to the SMAQMD Air Pollution Control Officer verifying the daily ROC emissions for each day the RDX batch is processed in the drying facility. ROC emissions shall be calculated based on emitting 100% of the isopropanol which is initially present in each RDX batch processed in the drying facility. The ROC emission level may use a factor less than

**V-U. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(2) RDX DRYING FACILITY
(continued)**

100% when the permittee demonstrates that the APC condenser achieves a consistent level of ROC emission reduction and is approved by the SMAQMD Air Pollution Control Officer.

- (B) Maximum allowable ROC emissions are based on not being subject to the BACT requirement of the 11-20-1984 version of SMAQMD Rule 202 New Source Review, by operating at a ROC emission level of less than 150 lb/day.

RECORD KEEPING REQUIREMENTS

3. The following record shall be continuously maintained on site for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request.

[Basis: SMAQMD Rule 201 Section 405]

Frequency	Information to be Recorded
Daily when process is operating	A. Dates when drying process operated. B. Wet weight of each RDX batch. (lb/batch). C. Amount of isopropanol associated with each batch. (lb ROC/batch) D. Daily ROC emission for each day the drying process operated. (lb ROC/day)

**V-V. EQUIPMENT
SPECIFIC
REQUIREMENTS**

(2) DEGREASER, NON-VAPOR

- A. EQUIPMENT DESCRIPTION:** The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
6968	Application: Used for soaking and cleaning propellant-contaminated tooling. Equipment: Degreaser Type: Non-vapor type Size: 30"W x 18"D x 48"L	01126
7075	Application: Used for soaking and cleaning propellant-contaminated tooling. Equipment: Degreaser Type: Non-vapor type Size: 30"W x 18"D x 48"L	01126

- B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS:** The requirements specified in this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. The processes shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.
[Basis: SMAQMD Rule 401 Section 301]

**V-V. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(2) DEGREASER, NON-VAPOR
(continued)**

EQUIPMENT OPERATION REQUIREMENTS

2. Operation of the non-vapor degreaser shall comply with one of the following:

- A. When degreasing materials that are not tools, equipment and machinery regulated under SMAQMD Rule 456 Aerospace Assembly and Component Coating Operations the VOC content of the solvent used in the degreaser shall not exceed the following.

Equipment	Maximum Allowable VOC Content of Solvents Used grams/liter (lb/gallon)
Non-vapor degreaser (when degreasing materials that are not tools, equipment and machinery regulated under SMAQMD Rule 456 Aerospace Assembly and Component Coating Operations	25 (0.21)

- (A) When the solvent being used complies with this VOC requirement the operation of the non-vapor degreaser is exempt from all requirements of SMAQMD Rule 454.

[Basis: SMAQMD Rule 454 Section 110.3]

- B. When degreasing the VOC content of the solvent used in the degreaser shall not exceed the following.

[Basis: SMAQMD Rule 456 Section 304.7]

Material Use	Maximum VOC content as applied Grams/liter (lb/gal)	OR	Maximum VOC composite partial vapor pressure mm Hg at 20°C (psia at 68°F)
Surface preparation or cleaning	200 (1.67)		45 (0.87)

**V-V. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(2) DEGREASER, NON-VAPOR
(continued)**

RECORD KEEPING REQUIREMENTS

3. The following record shall be continuously maintained on site for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request.

[Basis: SMAQMD Rule 201 Section 405]

Frequency	Information to be Recorded
At all times	<p>A. A list shall be maintained of all solvents currently used and/or stored at the site associated with the non-vapor degreaser. The list shall include the following information.</p> <ul style="list-style-type: none">i. Cleaning material type by name/code/manufacturer.ii. The actual VOC content of cleaning materials used, as applied including water and exempt compounds.iii. The actual mixing ratio for the cleaning material as applied. <p>B. If the materials cleaned in the non-vapor degreaser are tools, equipment and machinery regulated under SMAQMD Rule 456 Aerospace Assembly and Component Coating Operations then record the following:</p> <ul style="list-style-type: none">i. Dateii. The VOC content and vapor pressure of the cleaning solvent used in the non-vapor degreaser. <p>C. If the materials cleaned in the non-vapor degreaser are not tools, equipment and machinery regulated under SMAQMD Rule 456 Aerospace Assembly and Component Coating Operations then record the following:</p> <ul style="list-style-type: none">i. Dateii. The VOC content of the cleaning solvent used in the non-vapor degreaser.

**V-W. EQUIPMENT
SPECIFIC
REQUIREMENTS**

(2) BOWL CLEANING STATION

- A. EQUIPMENT DESCRIPTION:** The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
154	Description: Bowl cleaning station No. 1. with elevated platform used to clean propellant mixing bowls that are 6'3" D x 7' H. Size: Platform is 16' W x 13' L	01036
155	Description: Bowl cleaning station No. 2. with elevated platform used to clean propellant mixing bowls that are 6'3" D x 7' H. Size: Platform is 16' W x 13' L	01036

- B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS:** The requirements specified in this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

OPERATING REQUIREMENTS

1. Hand-wipe cleaning operations shall use cleaning solvents that meet one of the requirements specified below.

A. Aqueous solvents:

- i. Cleaning solvents in which water is the primary ingredient ($\geq 80\%$ of cleaning solvent solution as applied must be water).
- ii. Detergents, surfactants and bioenzymes mixtures and nutrients may be combined with the water along with a variety of additives, such as organic solvents (e.g. high boiling point alcohols), builders, saponifiers, inhibitors, emulsifiers, pH buffers and antifoaming agents.
- iii. Aqueous solutions must have a flash point greater than 93°C (200°F), as reported by the manufacturer, and the solution must be miscible with water.

B. Hydrocarbon-based solvents:

Cleaners that are composed of photochemically reactive hydrocarbons and/or oxygenated hydrocarbons and have a maximum vapor pressure of 7 mm Hg at 20°C (3.75 in. H_2O at 68°F). These cleaners also contain no HAPS.

**V-W. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(2) BOWL CLEANING STATION
(continued)**

C. Other solvents:

Must have a composite vapor pressure of 45 mm Hg (24.1 in H₂O) or less at 20 °C (68 °F)

[Basis: 40 CFR 63.744(b)]

2. The following materials, when applied to any aerospace component for the specified use, shall comply with either the VOC content or composite partial vapor pressure limitation.

[Basis: SMAQMD Rule 456 Section 304.7]

Material Use	Maximum VOC content as applied Grams/liter (lb/gal)	OR	Maximum VOC composite partial vapor pressure mm Hg at 20°C (psia at 68°F)
Surface preparation or cleaning	200 (1.67)		45 (0.87)

3. Cleaning solvent-laden cloth, paper, or any other absorbent applicators used for cleaning shall be placed in closed containers. These containers shall be of such design so as to contain the vapors of the cleaning solvents and shall be kept closed at all times except when depositing or removing materials from the container.

[Basis: 40 CFR 63.744(a)(1)]

4. Fresh and spent cleaning solvents, except semi-aqueous solvents (at least 60 percent of solvent solution as applied is water), shall be stored in closed containers.

[Basis: 40 CFR 63.744(a)(2)]

5. Cleaning solvents shall be handled and transferred to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that holds or stores fresh or spent cleaning solvents in such a manner that minimizes spills.

[Basis: 40 CFR 63.744(a)(3)]

6. Except as provided in 40 CFR 63.741(e), HAP-containing waste shall be handled and transferred to and from containers, tanks, vats, vessels and piping systems in such a manner that minimizes spills.

[Basis: 40 CFR 63.748]

**V-W. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(2) BOWL CLEANING STATION
(continued)**

RECORD KEEPING REQUIREMENTS

7. The permittee shall fulfill all recordkeeping requirements specified in 40 CFR Section 63.10(a), (b), and (c) for all operations subject to 40 CFR 63 Subpart GG.

[Basis: 40 CFR 63.752(a)]

8. The following record shall be continuously maintained onsite for the most recent five-year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Monthly and yearly records shall be made available within 30 days following the end of the reporting period.

[Basis: SMAQMD Rule 456 Section 501 and 40 CFR 63.752(b)]

Process/Operation	Information to be Recorded
A. For all cleaning operations [Basis: 40 CFR 63.752(b)(1)]	i. Each owner or operator of a new or existing cleaning operation subject to 40 CFR 63 Subpart GG shall record the following information, as appropriate. a. Name of each cleaning solvent used. b. Vapor pressure each of cleaning solvent used. c. Documentation showing the organic HAP constituent of each cleaning solvent used.
B. For each solvent used in hand-wipe cleaning operations that complies with the composition requirements specified in 40 CFR 63.744(b)(1) [Basis: 40 CFR 63.752(b)(2)]	i. Name of each cleaning solvent used. ii. All data and calculations that demonstrate that the cleaning solvent complies with one of the composition requirements. iii. Annual records of the volume of solvent used, as determined by facility purchase records or usage records. (gallons/year)

**V-W. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(2) BOWL CLEANING STATION
(continued)**

Process/Operation	Information to be Recorded
C. For each solvent used in hand-wipe cleaning operations that does not comply with the composition requirements in 40 CFR 63.744(b)(1) but does comply with the vapor pressure requirements in 40 CFR 63.744(b)(2) [Basis: 40 CFR 63.752(b)(3)]	<ul style="list-style-type: none"> i. Name of each cleaning solvent used. ii. The composite vapor pressure of each cleaning solvent used. iii. All vapor pressure test results, if appropriate, data, and calculations used to determine the composite vapor pressure of each cleaning solvent. iv. The amount of each cleaning solvent used each month at each hand-wipe cleaning operation, as defined in 40 CFR 63.742. (gallons/month)
D. For each solvent used for the exempt hand-wipe cleaning operations specified in 40 CFR 63.744(e) that does not conform to the vapor pressure or composition requirements of 40 CFR 63.744(b). [Basis: 40 CFR 63.752(b)(4)]	<ul style="list-style-type: none"> i. The identity and amount of each cleaning solvent used each month at each hand-wipe cleaning operation, as defined in 40 CFR 63.742. (gallons/month) ii. A list of the processes set forth in 40 CFR 63.744(e) to which the cleaning operation applies.

REPORTING REQUIREMENTS

9. The permittee shall submit the following semiannual compliance status reports. The reports shall be for the periods of January 01 through June 30 and July 01 through December 31, and shall be received by the SMAQMD by no later than 30 days after the end of the reporting period.
[Basis: 40 CFR 63.753(a)]

Process/Operation	Information to be Submitted
A. Cleaning Operations [Basis: 40 CFR 63.753(b)]	<ul style="list-style-type: none"> i. Any instance where a non-compliant cleaning solvent is used for non-exempt hand-wipe cleaning operations.

**V-W. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(2) BOWL CLEANING STATION
(continued)**

Process/Operation	Information to be Submitted
	<ul style="list-style-type: none">ii. A list of any new cleaning solvents used for hand-wipe cleaning in the previous 6 months and, as appropriate, their composite vapor pressure or notification that they comply with the composition requirements specified in 40 CFR 63.774(b)(1).iii. If the operations have been in compliance for the semiannual period, a statement that the cleaning operations have been in compliance with the applicable standards.

**V-X. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) GASOLINE STORAGE AND DISPENSING
FACILITY**

- A. EQUIPMENT DESCRIPTION:** The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment.

PO No.	Equipment Description			
17375	Phase I Equipment		Phase II Equipment	
	Number and Size of Tanks	Phase I Type	No. of Nozzles	Phase II Type
	1 - 5,200 gallons Aboveground	Two-point	1	Balance
	1 - 2,000 gallons Aboveground	Exempt (Diesel)	1	Exempt (Diesel)

- B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS:** The requirements specified in this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. VOC emissions and gasoline throughput from this facility shall not exceed:
[Basis: SMAQMD Rule 201 Section 405 and Rule 202 Section 301]

Pollutant	Emission Factor (A) (lb/Mgal)	Maximum Allowable Gasoline Throughput (gallons/quarter)	Maximum Allowable Emissions (lb/quarter)
ROC	1.52	37,500	57

- (A) Emission factor is from the California Air Pollution Control Officers Association (CAPCOA) *Gasoline Service Station Industrywide Risk Assessment Guidelines*, December 1997, Appendix A-5, Scenario 6-B.

**V-X. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) GASOLINE STORAGE AND DISPENSING
FACILITY
(CONTINUED)**

EQUIPMENT OPERATION REQUIREMENTS

2. The gasoline dispensing facility shall be maintained, and operated in accordance with the following California Air Resources Board (CARB) Executive Orders. California Health and Safety Code Section 41954(f) prohibits the installation of any vapor control system unless the system has been certified by the state board.

[Basis: SMAQMD Rule 448 Section 301 and SMAQMD Rule 449 Section 301]

CARB Executive Order	Description
G-70-116-F	Convault aboveground tank vapor recovery system
G-70-199AI	Relating to certification of gasoline dispensing nozzles to the liquid retention standard of 350 milliliters per 1,000 gallons dispensed

3. Any person engaged in the installation, alteration, repair or replacement of a vapor recovery system or its components shall meet the following requirements.
- A. Are certified by the International Code Council (ICC) for vapor recovery system testing and repair.
- B. If required by the CARB Executive Order, be certified by the system manufacturer.
- C. Maintain and make available any and all certifications as required in paragraph A and B.

[Basis: SMAQMD Rule 448 Section 401 and SMAQMD Rule 449 Section 402]

4. The requirements of Condition No. 3 shall not apply to the owner/operator of a gasoline dispensing facility or his/her direct employee(s) when replacing any defective nozzles, hoses and breakaways with new or CARB certified re-manufactured components of the same make and model, or alternatives specifically identified in the latest applicable CARB Executive Order. Any replacement allowed under this condition must be performed in accordance with the applicable CARB Executive Order.

[Basis: SMAQMD Rule 449 Section 115]

5. The vapor recovery system shall be operated in accordance with the applicable CARB certification, the manufacturer's specifications and maintained to be leak-free, vapor tight and in good working order.

[Basis: SMAQMD Rule 448 Section 302 and SMAQMD Rule 449 Section 302]

**V-X. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) GASOLINE STORAGE AND DISPENSING
FACILITY
(CONTINUED)**

6. All equipment shall be operated and maintained without any of the applicable defects listed in the Vapor Recovery Equipment Defects (VRED) list.

[Basis: SMAQMD Rule 448 Section 307 and SMAQMD Rule 449 Section 302.2]

7. The owner/operator of a vapor recovery system shall have available an operation and maintenance manual. The manual shall be kept on-site and made available to any person who operates, inspects, maintains, repairs or tests the vapor recovery equipment as well as the SMAQMD Air Pollution Control Officer upon request. The manual shall, at a minimum, include the following current information.

- A. All applicable CARB Executive Orders, approval letters and SMAQMD permits.
- B. Manufacturer's manual(s) for installation, operation and maintenance procedures as required to be provided by CARB Certification Procedure CP-201 and any additional instructions provided by the manufacturer.
- C. System and/or component testing requirements, including test schedules and passing criteria for each of the standard tests listed in SMAQMD Rules 448 and 449.
- D. Protocol for performing daily maintenance inspections, including the components to be inspected and the defects requiring repair.

[Basis: SMAQMD Rule 449 Section 403]

8. A. Maintenance inspections, except as provided in Condition No. 9, shall be conducted for each day the vapor recovery system is operated to ensure that vapor recovery system components that are verifiable through direct measurement or observation are in proper working order. Any equipment with a major defect listed in the Vapor Recovery Equipment Defects (VRED) list shall be removed from service and tagged to ensure that it is not used until it is repaired and brought into compliance before being returned to service.

- B. Weekly, quarterly, and annual inspections and testing shall be conducted in accordance with the applicable CARB approved IOM manual.

[Basis: SMAQMD Rule 448 Section 306 and SMAQMD Rule 449 Section 303.1]

9. The maintenance inspection requirements in Condition No. 8 shall not be required on Saturdays, Sundays and holidays for gasoline dispensing facilities with a six month average monthly gasoline throughput of less than 100,000 gallons/month.

[Basis: SMAQMD Rule 449 Section 112]

**V-X. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) GASOLINE STORAGE AND DISPENSING
FACILITY
(CONTINUED)**

10. The owner or operator of a vapor recovery system shall ensure that the removal from service of one component of a vapor recovery system with multiple components will not result in gasoline liquid or vapors entering the atmosphere.

[Basis: SMAQMD Rule 448 Section 306.3 and SMAQMD Rule 449 Section 303.2]

11. Defects discovered during the maintenance inspection and repaired in accordance with California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 7.5, Section 93101 of, such that after repair gasoline liquid or vapors do not enter the atmosphere, shall not constitute a violation of SMAQMD Rules 448 and 449.

[Basis: SMAQMD Rule 448 Section 306.4 and SMAQMD Rule 449 Section 303.3]

TESTING REQUIREMENTS

12. The following performance and reverification tests are applicable to the gasoline dispensing facility and shall be conducted and passed once every twelve months.

A. Static Pressure (Leak Decay) Test, in accordance with CARB Test Procedure TP-201.3.

B. Any other tests required by an applicable CARB Executive Order.

[Basis: SMAQMD Rule 448 Section 403 and SMAQMD Rule 449 Section 401]

13. Any person who conducts performance and reverification tests shall meet all of the following.

A. Be certified by the International Code Council (ICC) for Vapor Recovery System Testing and Repair.

B. If required by the CARB Executive Order, be certified by the system manufacturer.

C. Maintain and make available any and all certifications as required in paragraph A. and B.

[Basis: SMAQMD Rule 448 Section 401 and SMAQMD Rule 449 Section 402]

**V-X. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) GASOLINE STORAGE AND DISPENSING
FACILITY
(CONTINUED)**

NOTIFICATION AND REPORTING REQUIREMENTS

14. At least 7 days prior to the performance of reverification testing, the owner or operator shall notify the SMAQMD Air Pollution Control Officer of the exact date and time of the test.

A. If the vapor recovery system fails any of the applicable tests and the necessary repairs are performed that same day, the owner or operator may retest the vapor recovery system on the same day without re-notification, provided that the reasons for the test failure and any repairs performed are properly documented in the test reports and repair records.

[Basis: SMAQMD Rule 448, Section 402 and SMAQMD Rule 449, Section 404]

15. Results of the reverification tests shall be delivered to the SMAQMD Air Pollution Control Officer within thirty days of completion of the test. The test results shall contain the following information.

A. Name, location, address, and telephone number of the facility tested and SMAQMD permit number.

B. Name, address and phone number of the person or company performing the test.

C. Date of the test.

D. Test data.

E. Number of nozzles tested.

F. Number of tanks tested.

G. Statement of pass or fail.

[Basis: SMAQMD Rule 448 Section 502 and SMAQMD Rule 449 Section 502]

**V-X. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) GASOLINE STORAGE AND DISPENSING
FACILITY
(CONTINUED)**

RECORD KEEPING REQUIREMENTS

16. The following record shall be continuously maintained on site for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Monthly and quarterly records shall be made available for inspection within 30 days of the end of the reporting period.

[Basis: SMAQMD Rule 201 Section 405; SMAQMD Rule 448 Section 502; and SMAQMD Rule 449 Section 502]

Frequency	Information to be Recorded
At all times	A. Maintenance records for the vapor recovery system. B. Repair records for the vapor recovery system. C. Daily maintenance inspection reports. D. Performance test results. E. Reverification of performance test results.
Daily	F. Daily maintenance inspection reports including at least the following. i. Date and time of inspection. ii. List of defects from the VRED list that are applicable to the vapor recovery equipment and have a verification procedure of "direct observation" or "direct measurement". iii. Notation by person performing inspection whether each defect is present. iv. Description of any defects discovered. v. Action taken upon discovery of a defect. vi. Name and signature of person performing inspection.
Monthly	G. Total gasoline throughput. (gallons per month)
Quarterly	H. Total gasoline throughput. (gallons per quarter)

**V-X. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) GASOLINE STORAGE AND DISPENSING
FACILITY
(CONTINUED)**

EMISSION OFFSET REQUIREMENTS

17. Emission Reduction Credit (ERC) certificates, as indicated, are required and have been surrendered to the SMAQMD Air Pollution Control Officer.

[Also indicated is the value of the ERC certificate emissions after applying the applicable Offset Ratio. This value is the SMAQMD Rule 202 required emission offset.]

[Basis: SMAQMD Rule 202]

PO 17375	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
ROC SMAQMD ERC C04-1003 Loan expires 01-01-2024	74.1	74.1	74.1	74.1	1.3	57	57	57	57

**V-Y. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
PROCESS**

A. EQUIPMENT DESCRIPTION: The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
20492	<p>Pilot Plant Chemical Manufacturing Process</p> <p>Products: BN-7 BAMO NMMO Purification JSOW ETPE HENT AENT</p> <p>Equipment: Various process equipment</p> <p>APC Device: Cold Finger E-22 Heat Exchanger Make: NMI Industrial Contractors Material: Stainless Steel Surface area: 9 sq. ft.</p>	01020

B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS: The requirements specified in this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. The chemical manufacturing process shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which is as dark or darker than Ringelmann 1 or equivalent to or greater than 20% opacity.
[Basis: SMAQMD Rule 401]

**V-Y. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
PROCESS
(CONTINUED)**

2. The emissions from the chemical manufacturing process shall not exceed the following limits.

[Basis: SMAQMD Rule 202]

Pollutant	Emission Factor lb/batch	Maximum Allowable Emissions (A)	
		lb/quarter	lb/year
Methylene chloride	1.13 (B)	14	54
ROC	3.1 (C)	38	150

(A) The emission limit is based on 12 batches per quarter.

(B) The methylene chloride emission factor is based on the ETPE process, which yields the highest mass methylene chloride emission.

(C) The ROC emission factor is based on the HENT process, which yields the highest mass ROC emission.

3. Emissions from the chemical manufacturing process shall not result in a health risk exceeding the following limits.

[Basis: SMAQMD Rule 402]

Risk Type	Maximum Allowable Risk
Cancer Risk	0.79 in one million
Acute Hazard Index	HI < 0.1
Chronic Hazard Index	HI < 0.1

EQUIPMENT OPERATION REQUIREMENTS

4. A person shall not, during any one day, dispose of a total of more than 5 liters (1.3 gallons) of any photochemically reactive solvent or any material containing more than 5 liters (1.3 gallons) of any such photochemically reactive solvent by any means which will permit the evaporation of such solvent into the atmosphere.

[Basis: SMAQMD Rule 441 Section 304]

**V-Y. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
PROCESS
(CONTINUED)**

5. Except as provided in Condition No. 6, the permittee shall only conduct the following chemical manufacturing processes under this permit.

- A. BN-7
- B. BAMO
- C. NMMO Purification
- D. JSOW
- E. ETPE
- F. HENT
- G. AENT

[Basis: SMAQMD Rule 201 Section 405]

6. The permittee may conduct chemical manufacturing processes not listed in Condition No. 5, provided the following conditions are met.

- A. The emissions from the proposed process comply with the emissions limit in Condition No. 2.
- B. The health risk associated with the proposed process complies with the health risk limit in Condition No. 3.
- C. The permittee shall submit to the SMAQMD Air Pollution Control Officer for review and approval the proposed new process according to the protocol in Attachment 1 Emission Calculations Protocol, written by Timothy D. Smith, Senior Test Engineer, Dated: September 14, 2007, to show compliance with Condition Nos. 6.A and 6.B (see the attached Attachment 1).

- D. The permittee shall obtain SMAQMD Air Pollution Control Officer written approval for the new process prior to start-up of the process.

[Basis: SMAQMD Rule 201 Section 405]

**V-Y. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
PROCESS
(CONTINUED)**

RECORD KEEPING REQUIREMENTS

7. The following record shall be continuously maintained on site for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly and yearly records shall be made available within 30 days following the end of the reporting period.

[Basis: SMAQMD Rule 201 Section 405]

Frequency	Information to be recorded
At all times	A. Material data sheet for currently used VOC and methylene chloride containing materials. B. SMAQMD Air Pollution Control Officer's written approval of any additional chemical manufacturing processes not listed in Condition No. 5.
Quarterly	C. The total ROC and methylene chloride emissions from the use of all ROC and methylene chloride containing material. (lb ROC/quarter) D. A statement as to whether the quarterly ROC or methylene chloride limitation of Condition No. 2 was exceeded.
Yearly	E. The total ROC and methylene chloride emissions from the use of all ROC and methylene chloride containing material. (lb ROC /year) F. A statement as to whether the yearly ROC or methylene chloride limitation of Condition No. 2 was exceeded.

**V-Y. EQUIPMENT
 SPECIFIC
 REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
 PROCESS
 (CONTINUED)**

EMISSION REDUCTION CREDIT (ERC) REQUIREMENTS

8. Emission Reduction Credit (ERC) certificates, as indicated, are required and have been surrendered to the SMAQMD Air Pollution Control Officer.

[Also indicated is the value of the ERC certificate emissions after applying the applicable Offset Ratio. This value is the SMAQMD Rule 202 required emission offset.]

[Basis: SMAQMD Rule 202]

PO No. 20492	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
ROC SMAQMD ERC 10-01107 Michaels Company	45.6	45.6	45.6	45.6	1.2	38	38	38	38

**V-Y. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
PROCESS
(CONTINUED)**

***This is the approved protocol prepared by the
permittee that is referenced in Condition No. 6.C***

Attachment 1
Emission Calculations Protocol
Written by Timothy D. Smith (Senior Test Engineer)
Date: September 14th 2007

The Agile Pilot Plant

The Agile Pilot Plant has been designed for versatility. It consists of a two story ~6000 square foot building utilizing a second story platform to allow multiple stage reactions using gravity feed from one reactor to the other. The building has a one pass heating and cooling system, which changes the air in the building every two to three seconds from the lower level through the upper level to the roof exhaust. There is little cross (horizontal) ventilation. The building maintains an internal temperature of 65° to 75°F throughout the year. The building has forklift access through two rollup doors. It also has a monorail crane system to move equipment from one level to the other. The upper and lower levels are fitted with heavy grating covering a 24,000-gallon sump designed to capture chemical spills and deluge fire water, if necessary.

The Pilot Plant utilizes specific utilities combined with permanently mounted hardware, removable (portable) reactor systems and Remote/Local instrumentation systems. In this way specific reactor requirements can be designed and fabricated at other facilities while the Pilot Plant is operational for other projects.

Process to calculate emissions; Overview

The following steps are performed for each new process at the Agile Pilot Plant:

1. Process Description
2. Create Process Flow Diagram
3. Create Mass Balance for process
4. Create Process Flow Description
5. Calculate air emissions based on proposed solvent usages
6. Run Screen3 Dispersion Model (1g/s)
7. Take Emission Calculation Result to Run Cancer Risk Assessment
8. Combined (additive) Emissions and Cancer Risk Assessment Results
9. Compare Results to Permit Emission and Cancer Risk Limits
10. Submit Process Flow Diagram, Process Flow Description, Permit Emission Calculations, and Cancer Risk Assessment Results to District
11. If Approved - Complete Required Recordkeeping

**V-Y. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
PROCESS
(CONTINUED)**

Strategy

The strategy for satisfying the requirements of the District Permit is as follows:

The mass balance is used to theoretically determine the amount of reactants, catalysts, products, and byproducts that will be used or formed during the process.

The process flow description is used to break the process down into steps. Each step is evaluated to determine if emissions are created.

If the step is determined to be an emission source then the type of calculation and values needed to complete the evaluation are ascertained. The emission results are compared against permitted levels and a schedule to stay under these levels is created.

Process Step Breakdown

Each process step that may produce emission can be categorized into one of the following types:

Transfer: Transfer is the movement of a volume of given chemical, reactant, product or waste from one container, reactor, or storage drum to another. Transfer uses a displacement equation to predict the amount of emission produced. This equation requires a temperature and volume of the material being transferred. All emissions from this process pass through the Cold Finger.

Charge: Charge is the same as a transfer but the term is used to describe the filling of the reactor prior to starting a reaction.

Phase Split: Phase split is an operation to separate two materials/products in a reactor. An example is oil and water; oil is less dense than water, therefore, will float on the surface of the water. Opening the bottom valve on the reactor to remove the water and retain the oil is a phase separation. Phase separation uses the displacement equation to predict the amount of emission produced. This equation requires a temperature and volume of the material being separated. All emissions from this process pass through the Cold Finger.

Distillation: Distillation is the boiling off of a constituent in a reactor. The vapor created flows up to a condenser and is condensed (from vapor to liquid). The condensate is collected. Distillation uses the volume of vapor at the condenser to predict the amount of emission produced. This equation requires a temperature and volume of the material being distilled.

Addition: Addition is the same as transfer and charge as far as emission calculation are concerned. The term is used to describe the adding of a material to the process. Addition uses the displacement equation to predict the amount of emission produced. This equation requires a temperature and volume of the material being added. All emissions from this process pass through the Cold Finger.

**V-Y. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
PROCESS
(CONTINUED)**

Cleaning: Cleaning is the process of flowing solvent (almost always Acetone or water) through a Fluid Driven Tank Washing Nozzle. The nozzle creates high velocity streams of solvent to wash the inside of the reactor. If cleaning uses another solvent other than Acetone the displacement equation is used to predict the amount of emission produced. All emissions from this process pass through the Cold Finger.

Drying: After cleaning the solvent is transferred into a waste drum. The reactor is heated to evaporate the residual solvent from the reactor. The evaporated vapors are condensed in the Cold Finger. The assumption is that 100 grams of solvent is left in the reactor. The final step in the drying phase is to evacuate the reactor using the vacuum system, this guarantees the reactor is dry. The calculation assumes all solvent is evaporated into the vapor and that the vapor in the volume of the reactor is evacuated through the vacuum system. Again using a solvent other than Acetone is rare.

Reflux: Reflux is similar to distillation with the exception that the condensate flows back into the reactor. At steady state the system is sealed because the vapor produced is equal to the amount of vapor condensed. The transient portion of the heating to steady state is a complex equation (shown later) producing a minimal amount of emissions. The emissions are so minimal that the amounts are considered negligible and are not included.

Chromatography: Chromatography column filtering displacement (BAMO and NMMO purification step). The column is packed with a material. As the solution travels through the column, constituents in the solution are separated by their different flow rates through the packing material. The volume of solution flowing through the column and collected in product drums is used to calculate the emission. These emission pass through the Cold Finger. The removal of the solid packing material is collected into a polybag waste container. The emission from this transfer are calculated using straight volume transfer.

Filtering: At this point no filtering system is in place. Displacement would be used.

Step 5 - Calculations

Most calculations use displacement to estimate the emissions produced. This requires the physical properties of the solvent/solvents used in the process. The volume of solvent used and the temperature the solvent is at or will be exposed to.

**V-Y. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
PROCESS
(CONTINUED)**

Vapor Pressure

The vapor pressure of a solvent is dependent on temperature. The Antoine Equation is used to calculate the vapor pressure for a given temperature. The coefficients can be found in standard chemistry reference manuals.

Example 1

Antoine Equation (Vapor Pressure)					
Vapor Pressure (Psat): $\text{Log}_{10} P = A - (B/(t+C))$				t = degrees Celsius P = mmHg	
Coefficients		Dichloromethane		MeCl ₂	
A	B	C			
7.06993	1129.2	229.812			
Log Psat =	2.8	639.4 mmHg	t0	35	degrees Celsius
	2.5	354.6 mmHg	t1	20	degrees Celsius
	2.4	229.7 mmHg	t2	10	degrees Celsius
	2.3	182.4 mmHg	t3	5	degrees Celsius
	1.8	65.0 mmHg	t4	-15	degrees Celsius

Step 5 - Displacement

Sample Calculation for transferring 60 kg of Methylene Chloride into a reactor at 35°C.

Information needed:

Methylene Chloride physical properties			
Dichloromethane		MeCl ₂	
350 mmHg	Vapor Pressure	air density 1.25kg/m ³	
1.33 g/cm ³	Specific Gravity (water = 1)	SG	
2.93 kg/m ³	Vapor Density (air = 1)	3.66 g/L	

**V-Y. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
PROCESS
(CONTINUED)**

Sample Displacement Calculation

Vapor Pressure of MeCl ₂ at 35°C	See Example 1	639.4 mmHg
Volume of MeCl ₂ transferred	60 kg	
(60kg)/(1.33kg/Liter) =	45 liters	Volume Transferred
Calculation:		
Volume transferred * Partial Pressure @ 35°C / Ambient Air Pressure = Volume (liters)		
45. *(639.4/760) =	37.86 L	Ambient Air Pressure = 760 mmHg
Volume * Vapor Density = Emission Mass (grams)		
37.86L * 3.66g/L =	138.56 grams or	0.31 lbs.
	Emissions equal	0.31 lbs.

This transfer vents through the Cold Finger.

(Description listed in SMAQMD emission file with a 92.5% Efficiency)

$(1 - (92.5/100)) * 0.31 \text{ lbs}$ equals 0.023 lbs

Although in reality a majority of the volume displaced would be air; to be conservative all of the volume displaced is considered MeCl₂ vapor.

Total Emissions from transfer equals 0.023 lbs.

Step 5 Partial Pressure

Some processes utilize multiple solvents and in these cases the partial pressure of each solvent needs to be calculated. For this example 100kg of MeCl₂ and 50 kg of Ethyl Acetate (EA) are transferred at 20 °C.

Information needed:

**V-Y. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
PROCESS
(CONTINUED)**

Physical Properties				
Compound	Ethyl Acetate	MeCl ₂		
MF	C ₄ H ₈ O ₂	CH ₂ Cl ₂		
Molar Mass (g/mol)	88.12	84.93		
Ethyl Acetate	73 mmHg	Vapor Pressure		
	0.92 g/cm ³	Specific Gravity (water =1)	SG	
	3.04 kg/m ³	Vapor Density (air = 1)		3.8 g/L
Dichloromethane	350 mmHg	Vapor Pressure		
	1.33 g/cm ³	Specific Gravity (water =1)	SG	
	2.93 kg/m ³	Vapor Density (air = 1)		3.66 g/L

Sample Partial Pressure Calculation

Antoine Equation (Vapor Pressure) Vapor Pressure (P _{sat}): Log ₁₀ P = A-(B/(t+C))				
Coefficients		Dichloromethane	MeCl₂	
A	B	C		
7.06993	1129.2	229.812		
Log P _{sat} =	2.550	354.6 mmHg	t1	20 °C

Coefficients		Ethyl Acetate	EA	
A	B	C		
7.098	1238.1 7	217		
Log P _{sat} =	1.874	74.8 mmHg	t1	20 °C

**V-Y. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
PROCESS
(CONTINUED)**

Mole Calculation							
100	kg	MeCl2	1.18	moles	MeCl2	Is the molar mass times the weight (kg)	
50	kg	EA	0.57	moles	EA		
1.74 Total Moles							
Mole Fraction		0.67	MeCl2	Is the moles of MeCl2 / the total Moles			
		0.33	EA	Is the moles of EA / the total Moles			

Partial Pressure at 20 degrees C	MeCl ₂	239.28 mmHg	Is the Vapor Pressure * the Mole Fraction		
	EA	24.31 mmHg	Is the Vapor Pressure * the Mole Fraction		

CONVERT MeCl₂ and EA kg into liters					
	MeCl ₂	75.19 liters	100kg / 1.33kg/liter =	75.19	liters
	EA	54.35 liters	50kg / 0.92kg/liter =	54.35	liters
volume transferred = Total		129.54 liters			

Dichloromethane	Emissions		
129.54 L per batch	$129.54 \times (239.28 / 760) =$	40.78	liters
Volume transferred * Partial Prz @ 20°C / Ambient Air Prz = Volume			
40.78 L at 3.66 g/L is	149.37 grams or	0.33	lbs
Volume * Vapor Density = Emission Mass			

**V-Y. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
PROCESS
(CONTINUED)**

Ethyl Acetate		Emissions	
129.54	L per batch	$129.54 \times (24.31/760) =$	12.74 liters
Volume transferred * Partial Prz @ 20°C / Ambient Air Prz = Volume			
12.74	L at 3.80 g/L is	48.42 grams or	0.11 lbs
Volume * Vapor Density = Emission Mass			

Partial Pressure Summary

The vapor pressure at the given temperature is calculated using the Antoine Equation. The moles are determined by taking the given weight of the MeCl₂ and the EA and multiplied by the molar mass (from the physical properties). The moles of MeCl₂ and EA are summed for the total moles transferred. The mole fraction for each solvent is determined by dividing the moles of each solvent by the total moles transferred. The partial pressure for each solvent is calculated by multiplying the vapor pressure by the mole fraction. The volume of solvent transferred is calculated using the Specific Gravity (from the physical properties) for each solvent. With the partial pressure and the total volume being transferred the emissions can be calculated. The partial pressure is divided by the ambient pressure to give the evaporation losses. This is multiplied by the total volume transferred to estimate the amount of emissions for each solvent.

The calculated amount of emission is given in liters. The Air District needs the emissions in lbs. The liters of solvent are converted to lbs by the following. The vapor density of MeCl₂ is 2.93kg/m³ (from the physical properties) and that vapor density assumes air = 1. The density of air is 1.25kg/m³, therefore the vapor density of MeCl₂ is $2.93 \times 1.25 = 3.66\text{kg/m}^3$ which is by ratios equivalent to 3.66g/L. The 3.66g/L multiplied by the liters of emissions gives the emission in grams. Grams are easily converted to lbs by dividing by 454g/lbs.

Calculation Assumptions

As stated earlier most calculations use displacement to estimate the emissions produced. In many cases water is part of the transferred, added, charged, or part of the split volume. In these cases the water is added to the volume portion of the equation and is assumed to be solvent. This is done to calculate the theoretical emissions in the most conservative method. This also offsets the emissions that are too small to calculate such as the removing a transfer line and replacement of the bung on a 55 gallon drum. The fugitive emissions from a two inch diameter opening for 50 milliseconds is negligible but by over calculating emission in the large steps, these emissions are covered in the conservative approach.

**V-Y. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
PROCESS
(CONTINUED)**

Step 5 - Reflux

From the "Process Step Breakdown" section it is stated that the transient portion of the heating to steady state is a complex equation producing a minimal amount of emissions. The emissions are so minimal that the amounts are considered negligible and are not included. The following is an example of such a calculation. As you will see the reflux portion of the process produces 7.1 E-04 lbs of MeCl₂ emissions and 3.9 E-04 lbs of EA emissions. These are negligible and are accounted for in the conservative estimations stated earlier.

HEAT-UP R12, check vessel containing a single compound (single compound at one time)

volume in R12	74.71661 gal =	376.127174 kg	9.988852 ft ³
reactor vol	120 gal		
head space	45.28339 gal		

Total pressure 760 mmHg

heat from 20 to 34.44C

T _{initial}	20 C	293.15 K
----------------------	------	----------

T _{final}	34.4 C	307.55 K
--------------------	--------	----------

volume of gas space	6.053929 ft ³
---------------------	--------------------------

R universal gas constant	998.9 mmHg-ft ³ /lbmole-K
--------------------------	--------------------------------------

$$E = (N_{avg}) \ln(p_{nc,1}/p_{nc,2}) - (n_{i,2} - n_{i,1})$$

E= emission from vessel during heat up

$$N_{avg} = 1/2(n_1 + n_2)$$

p_{nc,1} = partial pressure of nitrogen in vessel headspace at temp T₁

p_{nc,2} = partial pressure of nitrogen in vessel headspace at temp T₂

n_{i,1} = moles of compound in vessel headspace at T₁

n_{i,2} = moles of compound in vessel headspace at T₂

n₁ = total moles in headspace at T₁

**V-Y. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
PROCESS
(CONTINUED)**

n2 = total moles in headspace at T2

N average 0.015344 lbmoles

init partial press N2 403.4794 mmHg

final partial press N2 131.9901 mmHg

n mecl2,1 0.007371 lbmoles

n mecl2,2 0.012376 lbmoles

init partial press N2 686.8242

final partial press N2 614.2859

n EtAc, 1 0.001513 lbmoles

n EtAc, 2 0.002871 lbmoles

emission, vessel 0.012141 lbmoles mecl2

1.031133 lbs mecl2

0.000354 lbmoles EtAc

0.0312 lb EtAc

MeCl2 to E-5 0.468697 kg

vol 0.352404 liter

emission from, E-5 0.084956 liter = 0.32211095 g = **0.000709 lbs**

EtAc to E-5 0.014182 kg

vol 0.015415 liter

emission from, E-5 0.000658 liter = 0.00258924 g = **5.7E-06 lbs**

V-Y. EQUIPMENT SPECIFIC REQUIREMENTS	(1) PILOT PLANT CHEMICAL MANUFACTURING PROCESS (CONTINUED)		
Heat remaining EtAc from 34.4C to 75C			
Tinitial	34.4	C	307.55
Tfinal	75	C	348.15
volume of gas space	6.053929	ft3	
R universal gas constant	998.9	mmHg-ft3/lbmole-K	
N average	0.014103	lbmoles	
init partial press N2	614.2859	mmHg	
final partial press N2	56.38923	mmHg	
n EtAc,1	0.002871	lbmoles	
n EtAc,2	0.012248	lbmoles	
emission from vessel			
	0.024304	lbmoles EtAc	
	2.141455	lb EtAc	
EtAc to E-5	0.973389	kg	
vol	1.058031	liter	
emission, E-5	0.04518	liter =	0.1777151 g = 0.000391 lbs

Step 6 - Cancer Risk Assessment

Cancer Risk assessment is a two step process. The first step is the Screen3 dispersion model followed by the cancer risk assessment spreadsheet. The following are the Screen3 data inputs and a copy of the risk assessment spreadsheet.

**V-Y. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
PROCESS
(CONTINUED)**

Screen3			
Input Data	Units	Details	
Emission Rate	G/S	emission calcs	Calculated Value (lbs/batch divided by 24 hr/day divided by 3600 sec/hr multiplied by 454 grams/lb)
Stack Height	M	9	Stack is approximately 30 feet tall
Stack Diameter (ID)	M	0.02	Stack inside diameter is 3/4 inch
Stack Exit Velocity	M/S	0.75	Calculation based on volumetric flow rate of 55 gallon pumped in 15 minutes. $7.35\text{ft}^3/15\text{min} = 0.5\text{scfm}$ "VF=0.5"
Stack Gas Temperature	K	293	Ambient (68°F)
Ambient Temperature	K	293	Ambient (68°F)
Receptor Height	M	2	Assumes approximate 6 foot human
Urban/Rural	Option	Rural	
Building Down Wash		N	
Complex Terrain Above Stack Height		N	
Simple Terrain Above Stack Base		N	
Auto Array		Y	10-1500 Meters
Full Meteorology		1	
Screen3 Calculated Value			
Maximum 1-Hr Concentration at or beyond 10 meters =			Output $\mu\text{g}/\text{m}^3$
at a distance of	Output	meters	

The maximum 1-Hr Concentration at or beyond 10 meters from Screen3 is entered into the (1 g/s emission max hourly downwind conc. ($\mu\text{g}/\text{m}^3$)) input on the cancer risk spreadsheet.

All boxed values in the Cancer Risk Assessment spreadsheet are inputs from the Screen3 dispersion model, the lbs/batch from the emission calculation, the batches per quarter are from the process definition, the Acute REL, the Chronic REL, and Cancer Potency Factor are from the ARB/OEHHA website.

**V-Y. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) PILOT PLANT CHEMICAL MANUFACTURING
PROCESS
(CONTINUED)**

Steps 7, 8, & 9 - See Next Sheet for Cancer Risk Assessment

SMAQMD risk planning worksheet												
date:	9/10/2007											
AENT Process												
	A	B	C	D	E	F	G	H	I	J	K	
Chemical	Max quarterly emissions (g/s)	Max hourly emissions (g/s)	1 g/s emission max hourly downwind conc. (ug/m3)	actual max hourly downwind conc. (ug/m3) (B x C)	actual max annual downwind conc. (A x C x 0.1)	acute REL (ug/m3) chemical specific	acute hazard index (D / F)	chronic REL (ug/m3) chemical specific	chronic hazard index (E / H)	cancer potency factor (ug/m3)-1 chemical specific	cancer potential (E x J)	
Low Vent, methylene chloride			8.949			1.40E+04		400		1.00E-06		
methylene chloride	3.37E-05	3.03E-03		2.71E-02	3.02E-05		1.94E-06		7.54E-08		3.02E-11	AENT
methylene chloride	1.11E-05	9.98E-04		8.93E-03	9.93E-06		6.38E-07		2.48E-08		9.93E-12	JSOW
					TOTALS		2.58E-06		1.00E-07		4.01E-11	
AENT							ok		ok	if<0.1 ok	5.28E-05	ok
Based on methylene chloride emissions of low vent = max hourly=					0.577	lbs/batch	1	batch/qtr	0.577313	lbs/qtr		
					0.0240547	lbs/hr						
JSOW												
Based on methylene chloride emissions of low vent = max hourly=					0.190	lbs/batch	1	batch/qtr	0.19	lbs/qtr		
					0.00791667	lbs/hr						
Risk needs to be below 1 for acute and chronic indexes, and below 7.6E-07 for cancer potential.												
										Total MeCl2	0.77	lbs/qtr

Methylene Chloride Exposure Limits

The (acute REL (ug/m3) chemical specific) is from the ARB TAC list CAS registry Number: 75-09-2 Inhalation exposure limit 14,000 µg/m³

The (chronic REL (ug/m3) chemical specific) is from OEHH/ARB approved chronic reference exposure levels list (<http://www.arb.ca.gov/toxics/healthval/chronic.pdf>)

The (cancer potency factor (ug/m3)-1 chemical specific) is from the OEHH website (http://www.oehha.ca.gov/air/toxic_contaminants/html/Methylene%20Chloride.htm).

Cancer Risk based on District Limits is 0.79 in one million.

Acute Hazard Index based on District Limit is less than 0.1

Chronic Hazard Index based on District Limit is less than 0.1

**V-Z. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) SOLUBLE MANDREL MANUFACTURING
PROCESS**

- A. EQUIPMENT DESCRIPTION:** The information specified in this section is enforceable by the SMAQMD, U.S. EPA and the public.

The requirements specified in the following sections apply to the following equipment:

PO No.	Equipment Description	Location/ Building
21734	Soluble mandrel manufacturing process, various soluble mandrel casting cases	20009

- B. EQUIPMENT SPECIFIC FEDERALLY ENFORCEABLE REQUIREMENTS:** The requirements specified in this subsection are enforceable by the SMAQMD, U.S. EPA and the public.

EMISSION LIMIT REQUIREMENTS

1. The chemical manufacturing process shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which is as dark or darker than Ringelmann 1 or equivalent to or greater than 20% opacity.

[Basis: SMAQMD Rule 401]

2. Emissions from the soluble mandrel manufacturing process shall not exceed the following limits.

Pollutant	Emission Factor (A) lb/batch	Maximum Allowable Emissions (B)	
		lb/quarter	lb/year
ROC	2.35	42	168

(A) Emissions based on estimated usage of 6.7 lbs of ROC per batch and 65% control efficiency as stated in permittee's SMAQMD Rule 201 permit application.

(B) Emissions are based on 1 batch per day and 18 batches per quarter.

3. Compliance with the soluble mandrel manufacturing process emissions limitations specified in Condition No. 2 shall be determined as follows:

$$\begin{aligned} \text{ROC emissions} = & \text{[ROC containing material use, gal/qtr]} \times \text{[ROC content, lb/gal]} \\ (\text{lb/quarter}) & - \text{[ROC containing material disposed, gal/qtr]} \times \text{[ROC content, lb/gal]} \end{aligned}$$

**V-Z. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) SOLUBLE MANDREL MANUFACTURING
PROCESS
(CONTINUED)**

EQUIPMENT OPERATION REQUIREMENTS

4. The soluble mandrel shall be enclosed in a still bag at all times during the drying process.

RECORD KEEPING REQUIREMENTS

5. The following record shall be continuously maintained on site for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Quarterly and yearly records shall be made available within 30 days following the end of the reporting period.

Frequency	Information to be recorded
At all times	A. Material data sheet for currently used VOC containing materials.
Quarterly	B. The total ROC emissions from the use of all ROC containing material. (lb ROC/quarter) C. A statement as to whether the quarterly ROC limitation of Condition No. 2 was exceeded.
Yearly	D. The total ROC emissions from the use of all ROC containing material. (lb ROC/year) E. A statement as to whether the yearly ROC limitation of Condition No. 2 was exceeded.

**V-Z. EQUIPMENT
SPECIFIC
REQUIREMENTS**

**(1) SOLUBLE MANDREL MANUFACTURING
PROCESS
(CONTINUED)**

EMISSION REDUCTION CREDIT REQUIREMENTS

6. Emission Reduction Credit (ERC) certificates, as indicated, are required and have been surrendered to the SMAQMD Air Pollution Control Officer.

[Also indicated is the value of the ERC certificate emissions after applying the applicable Offset Ratio. This value is the SMAQMD Rule 202 required emission offset.]

[Basis: SMAQMD Rule 202]

PO 21734	Face Value of ERC Certificates Surrendered lb				Offset Ratio	Value of the ERC Certificate after Applying the Offset Ratio lb			
Pollutant/ Certificate	Qtr 1	Qtr 2	Qtr 3	Qtr 4		Qtr 1	Qtr 2	Qtr 3	Qtr 4
ROC SMAQMD ERC C09-1017 Loan expires 07-01-2019	42	42	42	42	1.0	42	42	42	42

VI. INSIGNIFICANT EMISSION UNITS

The following systems are considered insignificant emissions units and are not subject to equipment-specific requirements. However, these units are required to comply with all applicable general requirements:

Equipment Category as Listed in the SMAQMD Title V List and Criteria "List of Insignificant Activities", adopted 04-26-2001	Basis for Exemption	Equipment (for details of equipment see Section B of the permittee's Title V permit application)
I. General Criteria for Insignificant Activities	<p>1. Not subject to a source-specific requirement of a State Implementation Plan</p> <p>and</p> <p>Emits no more than 0.5 tons per year of a federal hazardous air pollutant (HAP) and no more than two tons per year of a regulated pollutant that is not a HAP</p>	<p>a. Unregulated Tanks A number of etching tanks, cleaning tanks, rinse tanks, storage tanks, dip tanks, etc.</p> <p>b. Various emission units that emit less than 2 lb/day.</p> <p>c. HVAC equipment.</p> <p>d. General Repairs and Maintenance This includes operations such as the weld shop, plant-wide janitorial services and general maintenance.</p>
II.A Fugitive Emission Sources Associated with Insignificant Activities	1. Fugitive emissions sources associated with insignificant activities	
II.B Combustion and Heat Transfer Equipment	<p>1. Combustion equipment with maximum heat input $\leq 5,000,000$ BTU/hour and exclusively fired with natural gas or LPG (propane)</p> <p>2. Piston-type internal combustion engine with rating < 50bhp</p>	<p>a. Space Heaters</p> <p>b. Boilers</p> <p>c. IC Engines</p>

VI. INSIGNIFICANT EMISSION UNITS (continued)

Equipment Category as Listed in the SMAQMD Title V List and Criteria "List of Insignificant Activities", adopted 04-26-2001	Basis for Exemption	Equipment (for details of equipment see Section B of the permittee's Title V permit application)
II.C Cooling Towers	1. Any water cooling tower which: 1) has a circulation rate of less than 10,000 gallons per minute; and 2) is not used to cool process water, water from barometric jets, or water from barometric condensers	NA
II.D Printing and Reproduction Equipment	1. Any printing, coating, or laminating activity which uses no more than two gallons per day of graphic arts materials, including: inks, coatings, adhesives, fountain solutions, thinners, retarders, or cleaning solutions. 2. Any laser printing equipment.	Office printers, fax and copiers
II.E Food Processing Equipment	NA	NA
II.F Plastic and / or Rubber Processing Equipment	NA	NA

VI. INSIGNIFICANT EMISSION UNITS (continued)

Equipment Category as Listed in the SMAQMD Title V List and Criteria "List of Insignificant Activities", adopted 04-26-2001	Basis for Exemption	Equipment (for details of equipment see Section B of the permittee's Title V permit application)
II.G Storage Containers, Reservoirs, and Tanks - Fuel, Fuel Oil and Asphalt	1. Any equipment used exclusively for the storage of fuel oils or non-air-blown asphalt with specific gravity 0.9042 or higher (25o API or lower) as determined by API test method 2547 or ASTM test method D-1298-80.	a. Fuel storage tanks for diesel and JP10.
II.H Storage Containers, Reservoirs, and Tanks - General Organic and VOC-Containing Material	<p>1. Any equipment used exclusively for the storage of unheated organic material with:</p> <ul style="list-style-type: none"> a. An initial boiling point of 150° C [302° F] or greater as determined by ASTM test method 1078-86); or b. A vapor pressure of no more than five millimeters mercury (mmHg) [0.1 pound per square inch (psi) absolute] as determined by ASTM test method D-2879-86. <p>2. Any equipment with a capacity of no more than 250 gallons used exclusively for the storage of unheated organic liquid.</p> <p>3. Any equipment with a capacity of no more than 6,077 gallons used exclusively for the underground storage of unheated organic liquid</p>	<p>a. Tanks containing liquids with $V_p \leq 77.5$ mm Hg and < 6076 Gal Capacity These tanks contain mainly motor oil, kerosene, Kodak Rp developer solution, butyl acetate, xylene, IPA and hydraulic oil.</p> <p>b. Unheated, non-conveyorized solvent rinsing containers and dip tanks.</p>

VI. INSIGNIFICANT EMISSION UNITS (continued)

Equipment Category as Listed in the SMAQMD Title V List and Criteria "List of Insignificant Activities", adopted 04-26-2001	Basis for Exemption	Equipment (for details of equipment see Section B of the permittee's Title V permit application)
	with a vapor pressure no more than 75 mm Hg (1.5 psi absolute) as determined by ASTM test method D-2879-86.	
II.I Storage Containers, Reservoirs, and Tanks - Inorganic Material	NA	NA
II.J Storage Containers, Reservoirs, and Tanks - Liquefied Gases	1. Any equipment used exclusively for the storage of liquefied gases in unvented (except for emergency pressure-relief valves) pressure vessels.	a. Tanks containing liquefied or compressed gases These tanks contain mainly LPG, liquid nitrogen, liquid argon, liquid and gaseous H ₂ , liquid and gaseous O ₂ and helium.
II.K Compression and Storage of Dry Natural Gas	NA	NA
II.L Transfer Equipment	NA	NA
II.M Adhesive Application	NA	NA
II.N Surface Coating	1. Any equipment or activity using no more than one gallon per day of surface coating, or any combination of surface coating and solvent, which contains either VOC or hazardous air pollutants (HAP), or both.	Various equipment meeting the described criteria.
II.O Solvent Cleaning	1. Any equipment or activity using no more than one gallon per day of solvent, or combination of solvent and surface coating,	Various equipment meeting the described criteria.

VI. INSIGNIFICANT EMISSION UNITS (continued)

Equipment Category as Listed in the SMAQMD Title V List and Criteria "List of Insignificant Activities", adopted 04-26-2001	Basis for Exemption	Equipment (for details of equipment see Section B of the permittee's Title V permit application)
	<p>which contains either VOC or HAP, or both.</p> <p>2. Any unheated, non-conveyorized cleaning equipment (not including control enclosures):</p> <ul style="list-style-type: none"> a. which has an open surface area of no more than 10.8 square feet (2 square meters) and internal volume of no more than 92.5 gallons b. which uses organic solvents with an initial boiling point of 302° F or greater as determined by ASTM test method 1078-78 c. from which the owner or operator can demonstrate, through solvent purchase and use records, that less than 25 gallons per year of solvent was lost exclusive of solvent loss from recycling or disposal. <p>3. Any solvent wipe cleaning provided such cleaning:</p> <ul style="list-style-type: none"> a. utilizes a container applicator to limit emissions (e.g., squeeze containers with narrow tips, spray bottles, dispensers with 	

VI. INSIGNIFICANT EMISSION UNITS (continued)

Equipment Category as Listed in the SMAQMD Title V List and Criteria "List of Insignificant Activities", adopted 04-26-2001	Basis for Exemption	Equipment (for details of equipment see Section B of the permittee's Title V permit application)
	<p>press-down caps, etc.)</p> <p>b. occurs at a facility which emits no more than five tons VOC (uncontrolled emissions) per calendar year from all solvent wipe-cleaning operations or which purchases no more than 1,500 gallons of solvent per calendar year.</p>	
II.P Abrasive Blasting	<p>1. Any blast cleaning equipment using a suspension of abrasive material in water and the control equipment venting such blast cleaning equipment.</p> <p>2. Any abrasive blast room when vented to a control device that discharges back to the room.</p>	Various equipment meeting the described criteria.
II.Q Brazing, Soldering, Welding and Cutting Torches	<p>1. Any brazing, soldering, welding, or cutting torch equipment used in manufacturing and construction activities and with the potential to emit hazardous air pollutant (HAP) metals, provided the total emissions of HAPs do not exceed 0.5 tons per year.</p>	Various equipment meeting the described criteria.

VI. INSIGNIFICANT EMISSION UNITS (continued)

Equipment Category as Listed in the SMAQMD Title V List and Criteria "List of Insignificant Activities", adopted 04-26-2001	Basis for Exemption	Equipment (for details of equipment see Section B of the permittee's Title V permit application)
II.R Solder Leveler, Hydrosqueegee, Wave Solder Machine, or Drag Solder Machine	NA	NA
II.S Metal Products	NA	NA
II.T Aerosol Can Puncturing or Crushing	NA	NA
II.U Biotechnology Manufacturing	NA	NA
II.V Textile Dyeing, Stripping or Bleaching	NA	NA
II.W Laboratory Fume Hoods and Vents	1. Any laboratory fume hood or vent, provided such equipment is used exclusively for the purpose of teaching, research, or quality control.	a. Laboratory equipment. These units include general lab operations, hoods and process areas.
II.X Refrigeration Units	1. Any refrigeration unit provided the unit: a. Contains less than 50 pounds of refrigerant; and b. Is not used in conjunction with air pollution control equipment.	a. Refrigeration units

VI. INSIGNIFICANT EMISSION UNITS (continued)

Equipment Category as Listed in the SMAQMD Title V List and Criteria "List of Insignificant Activities", adopted 04-26-2001	Basis for Exemption	Equipment (for details of equipment see Section B of the permittee's Title V permit application)
NA	CERCLA sources that are covered by a U.S. EPA consent decree under CERCLA and thus not subject to SMAQMD Rule 201 permit requirements and therefore not included in the Title V permit.	CERCLA Activities The permittee operates a number of air stripping towers.

VII. ACRONYMS, ABBREVIATIONS AND UNITS OF MEASURE

Acronyms, abbreviations and units of measure used in this permit are defined as follows.

ASTM

American Society for Testing and Materials

BACT

Best Available Control Technology.

CAA

The federal Clean Air Act.

CARB

California Air Resources Board.

CFC

Chloro-fluoro-carbons. A class of compounds responsible for destroying ozone in the upper atmosphere.

CFR

The Code of Federal Regulations. 40 CFR contains the implementing regulations for federal environmental statutes such as the Clean Air Act. Parts 50-99 of 40 CFR contain the requirements for air pollution programs.

CO

Carbon monoxide.

CO₂

Carbon dioxide.

ERC

Emission reduction credit.

Federally Enforceable

All limitations and conditions which are enforceable by the Administrator of the U.S. EPA including those requirements developed pursuant to 40 CFR Part 51, Subpart I (NSR), Part 52.21 (PSD), Part 60 (NSPS), Part 61 (NESHAP), Part 63 (HAP) and Part 72 (Permits Regulation, Acid Rain) including limitations and conditions contained in operating permits issued under a U.S. EPA approved program that has been incorporated into the California SIP.

NESHAP

National Emission Standards for Hazardous Air Pollutants (see 40 CFR Parts 61 and 63).

NO_x

Nitrogen oxides.

VII. ACRONYMS, ABBREVIATIONS AND UNITS OF MEASURE (continued)

NSPS

New Source Performance Standards. U.S. EPA standards for emissions from new stationary sources. Mandated by Title I, Section 111 of the federal Clean Air Act and implemented by 40 CFR Part 60 and SMAQMD Regulation 8.

NSR

New Source Review. A federal program for pre-construction review and permitting of new and modified sources of pollutants for which criteria have been established in accordance with Section 108 of the Federal Clean Air Act. Mandated by Title I of the federal Clean Air Act and implemented by 40 CFR Parts 51 and 52 and SMAQMD Rule 202 and 214. (Note: There are additional NSR requirements mandated by the California Clean Air Act.)

O₂

Oxygen.

Offset Requirement

A New Source Review requirement to provide federally enforceable emission offsets for the emissions from a new or modified source. Applies to emissions of ROC, NO_x, SO₂ and PM₁₀.

PM

Particulate matter.

PM₁₀

Particulate matter with aerodynamic equivalent diameter of less than or equal to 10 microns.

PO

Permit to Operate. The Permit to Operate is a requirement of SMAQMD Rule 201.

PSD

Prevention of Significant Deterioration. A federal program for permitting new and modified sources of those air pollutants for which the SMAQMD is classified "attainment" of the National Air Ambient Quality Standards. Mandated by Title I of the federal Clean Air Act and implemented by 40 CFR Part 52.

ROC

Reactive organic compounds.

SCR

Selective catalytic reduction. An air pollution control device used to control NO_x emissions.

SIP

State Implementation Plan. CARB and SMAQMD programs and regulations approved by U.S. EPA and developed in order to attain the National Air Ambient Quality Standards. Mandated by Title I of the federal Clean Air Act.

VII. ACRONYMS, ABBREVIATIONS AND UNITS OF MEASURE (continued)

SMAQMD

Sacramento Metropolitan Air Quality Management District.

SO_x

Sulfur dioxides

Title V

Title V of the federal Clean Air Act. Title V requires the SMAQMD to operate a federally enforceable operating permit program for major stationary sources and other specified sources.

TSP

Total suspended particulate.

U.S. EPA

The federal Environmental Protection Agency.

VOC

Volatile Organic Compounds.

VII. ACRONYMS, ABBREVIATIONS AND UNITS OF MEASURE (continued)

UNITS OF MEASURE:

BTU	=	British Thermal Unit
cfm	=	cubic feet per minute
cm	=	centimeter
g	=	grams
gal	=	gallon
gpm	=	gallons per minute
hp	=	horsepower
hr	=	hour
lb	=	pound
in	=	inch
kg	=	kilogram
max	=	maximum
m ²	=	square meter
min	=	minute
mm	=	millimeter
M	=	thousand
MM	=	million
ppmv	=	parts per million by volume
ppmw	=	parts per million by weight
psia	=	pounds per square inch, absolute
psig	=	pounds per square inch, gauge
quarter	=	calendar quarter
RVP	=	Reid vapor pressure
scfm	=	standard cubic feet per minute
yr	=	year